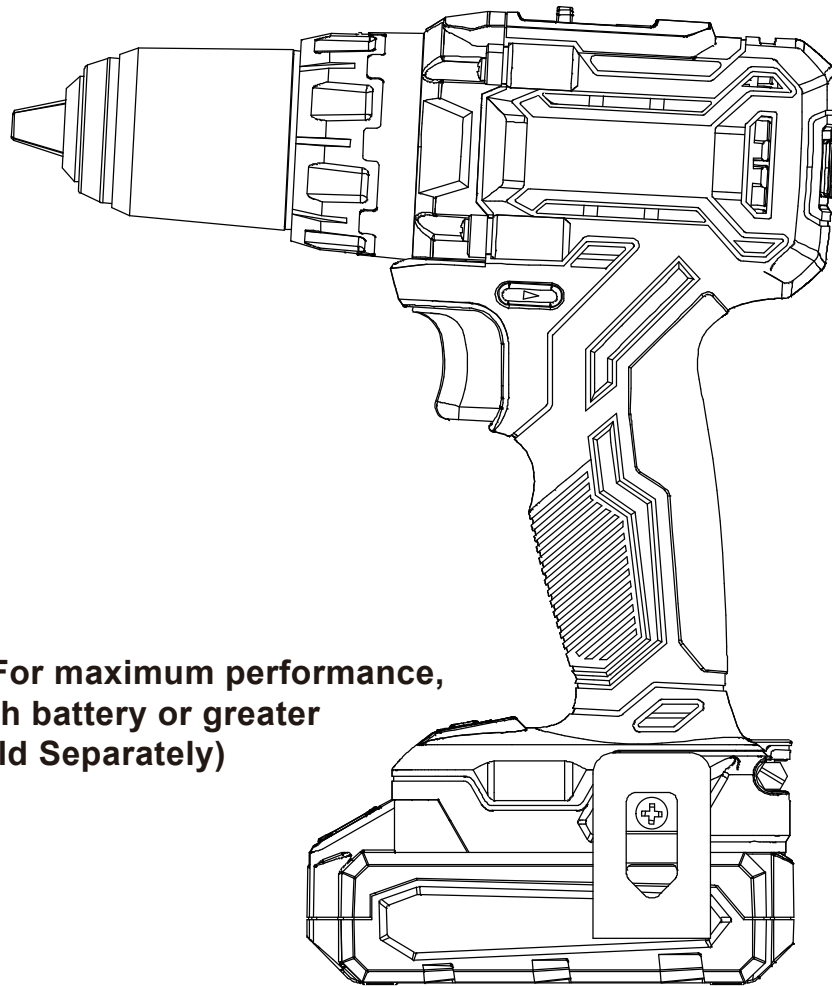


# KLUTCH™

## 20V BRUSHLESS DRILL/DRIVER

### Owner's Manual



Item # 5796853 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 # 5796853,5797012,5796976**

**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 Drill/Driver 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 **1-866-915-8626**.

# IMPORTANT SAFETY INSTRUCTIONS

## WORK AREA

1. **Keep your work area clean and well lit.** Cluttered benches and 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 bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to lose control. Protect others in the work area from debris such as chips and sparks. Provide barriers or shields as needed.

## ELECTRICAL SAFETY

4. **Double Insulated tools are equipped with a polarized plug (one blade is wider than the other.) This power plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a polarized outlet. Do not change the plug in any way.** Double Insulation  eliminates the need for the three wire grounded power cord and grounded power supply system.
5. **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.
6. **Don't expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
7. **Handle the cord carefully. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately.** Damaged cords increase the risk of electric shock.

## PERSONAL SAFETY

8. **Stay alert, watch what you are doing, and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
9. **Dress properly. Do not wear loose clothing or jewelry. Tie up long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught by moving parts.
10. **Avoid accidental starting. Be sure switch is off before plugging in.** Carrying tools with your finger on the switch or plugging in tools with the switch on invites accidents.
11. **Remove adjusting keys before turning the tool on.** A wrench or a key that is left attached to a rotating part of the tool may result in personal injury.
12. **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enable better control of the tool in unexpected situations.
13. **Use safety equipment. Always wear eye protection.** Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used in appropriate conditions.

## POWER TOOL USE AND CARE

14. **Use clamps or other practical ways to secure and support the work piece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.
15. **Do not force tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.
16. **Do not use tool if switch does not turn it on or off.** Any tool that cannot be controlled with the switch is dangerous and must be repaired.
17. **Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the tool.** Such preventive safety measures reduce the risk of starting the tool accidentally.
18. **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.

# IMPORTANT SAFETY INSTRUCTIONS

19. **Maintain tools with care. Keep accessories sharp and clean.** Properly maintained tools with sharp cutting edges are less likely to bind and easier to be controlled. Do not use a damaged tool. Tag damaged tools "Do not use" until repaired.
20. **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool's operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.
21. **Only use accessories recommended by the manufacturer for your model.** Accessories suitable for one tool may become hazardous when used on another tool.

## BATTERY TOOL USE AND CARE

22. **Ensure the switch is in the off position before inserting the battery pack.** Inserting the battery pack into power tools that have the switch on may cause an accident.
23. **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.
24. **Use power tools only with specifically designed battery packs.** Use of any other battery packs may create a risk of injury or fire.
25. **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 terminals together may cause burns or a fire.
  - a. Do not use the tool in wet or damp conditions.
  - b. Always keep the work area free of tripping hazards.
  - c. When using the tool, always ensure you are wearing protective safety equipment including safety glasses/goggles, ear muffs, dust masks and other protective clothing including gloves and aprons.
26. **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.

## SERVICE

27. **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury.
28. **When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance section of this manual.** Use of unauthorized parts or failure to follow maintenance instructions may create a risk of electric shock or injury.

# SAFETY INSTRUCTIONS FOR CORDLESS DRILL/DRIVER

- **Always wear safety goggles or eye protection when using this tool. Use a dust mask or respirator for applications which generate dust.**
- **Do not grasp the tool or place your hands too close to the spinning chuck or drill bit.** Your hand may be lacerated or may cause injury.
- **Securing the material being worked on. Never hold it in your hand or across your legs.** Unstable support can cause loss of control and injury.
- **Position yourself to avoid being caught between the tool or side handle and the walls or posts.** Should the socket or bit become bound in the work, the reaction torque of the tool could crush your hand or leg.
- **Check to see that keys and adjusting wrenches are removed from the Cordless Drill before switching the tool "ON".** Keys or wrenches can fly away at high velocity striking you or a bystander.
- **When using the Cordless Drill, always maintain a firm grip on the tool with both hands.**
- **Hold tool by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring.** Contact with a "live" wire will also make exposed metal parts of the tool "live" and shock the operator.
- **Keep the handle of the Cordless Drill dry, clean, and free from oil and grease.**
- **Do not run the Cordless Drill while carrying it at your side.** A spinning socket or bit could become entangled with clothing and injury may occur.
- **Disconnect the plug or remove the battery pack from tool and place the switch in the locked or "OFF" position before making any assembly adjustments, changing accessories, performing any inspection, maintenance or cleaning procedures.** Such preventive safety measures reduce the risk of starting the tool accidentally.
- **Do not use the Cordless Drill if it has been damaged, left outdoors in the rain, snow, wet or damp environments, or immersed in liquid.**

# SAFETY INSTRUCTIONS FOR BATTERIES AND CHARGER

## BATTERY

1. Never attempt to open or modify battery for any reason. Released electrolyte is corrosive and may cause damage to eyes and skin. It may be toxic if swallowed.
2. Under extreme conditions, battery leakage may occur. When you notice liquid on the battery, proceed as follows:
  - Carefully wipe the liquid off using a cloth. Avoid skin contact.
  - In case of skin or eye contact, follow the instructions below.
  - The battery fluid, a 25-30% solution of potassium hydroxide, can be harmful. In case of skin contact, immediately rinse with water. Neutralize with a mild acid such as lemon juice or vinegar. In case of eye contact, rinse abundantly with clean water for at least 10 minutes.
3. Do not expose to water.
4. Do not store in locations where the temperature may exceed 40°C (104°F).
5. Charge at room temperature: 0°C - 45°C (0°F-140.6°F). It is normal for the battery charger to hum and be warm but not hot during operation.
6. Charge only using the charger provided with the tool.
7. Before charging, make sure that the battery is dry and clean.
8. Use only the battery supplied with your tool.
9. Exercise care in handling and storing batteries in order not to short them with conductive materials such as rings, keys, coins. There is a real risk of the battery or the conductor overheating, causing fire or burns.
10. Keep the battery pack away from fire. It may explode. Follow instructions and regulations given by local authorities concerning environmental protection. Dispose of old batteries at an appropriate waste disposal facility.

## CHARGER

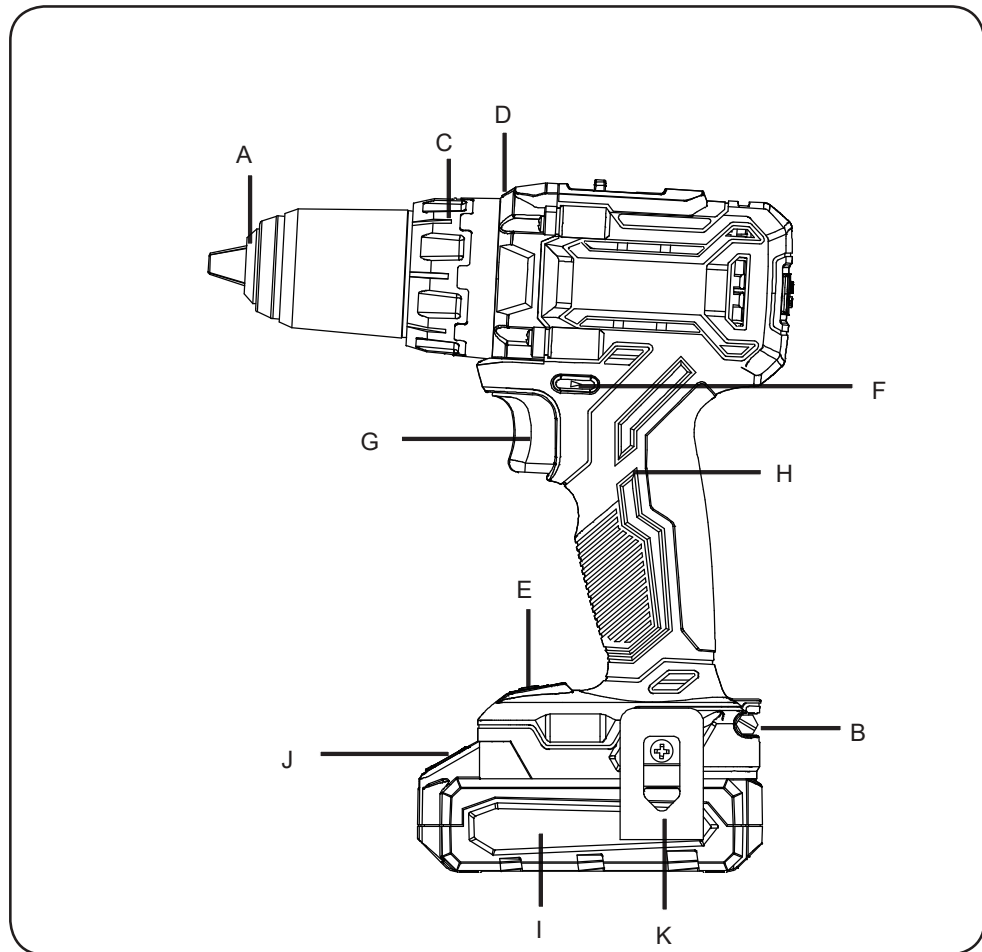
1. Use only KLUTCH charger to charge KLUTCH 20V Lithium-ion batteries. Other batteries could burst, causing personal injury and damage.
2. Never attempt to charge a non-rechargeable battery.
3. Have damaged cords replaced immediately.
4. Do not expose to water.
5. Do not open the charger.
6. Indoor use only. Do not recharge the battery in the rain or in wet conditions.

# SPECIFICATIONS

- Voltage: 20V
- No Load Speed: 0-480/0-1800 RPM
- Chuck Size: 1/2"
- Max Torque: 440 in.lbs
- Clutch Settings: 23

# FUNCTIONAL DESCRIPTION

- A 1/2" (13 mm) chuck
- B Double-end driver bit storage
- C Torque regulation ring
- D Torque indicator scale
- E LED work light
- F Forward / reverse switch
- G Variable speed trigger with electric brake
- H Rubber-covered handle
- I Battery pack (Item # 5796853 Sold Separately)
- J Battery lock button
- K Metal belt hook



# ASSEMBLY

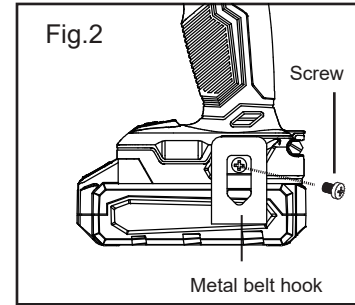
## TO INSTALL/REMOVE METAL BELT HOOK (SEE FIG.2)

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.



# 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.

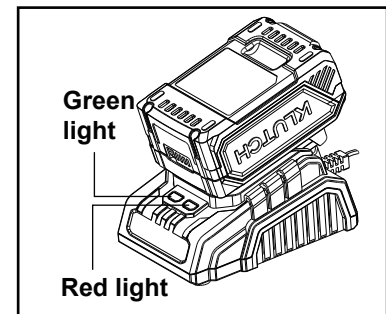
6. Slide the Battery Pack onto the Charger.

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.

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.

# OPERATION

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

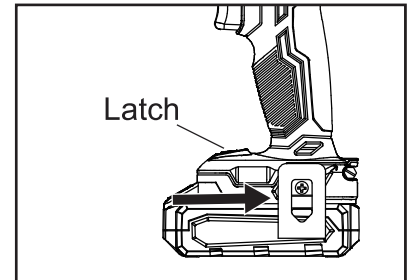
- Fully charge battery before first use.
- Avoid short periods of charging. Only charge battery pack when it completely runs out.
- In order to extend the battery life, fully charge it after each use and ensure that it is charged every three months; avoid storing batteries in cold places as low temperatures may cause them to fail.

## Install or remove battery pack

**To install :** slide battery pack into the bottom of the tool until you hear a click.

Make sure the latch is in place and the battery is secured before operation.

**To remove:** Press the battery release latch and pull the battery pack out at the same time.



**WARNING:** When the machine is obstructed, please turn off the switch right away and check if the work piece is right. An obstruction may cause the machine motor to be burned.



**REMEMBER:** This tool is cordless and does not need to be connected to a power supply.


**CAUTION:** Do not expose either the tool or charger to the rain or water.

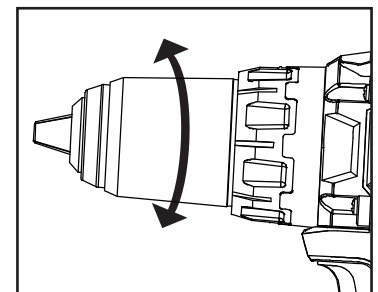
It is best not to overcharge the battery as this may damage the battery.

If the battery power is low, stop working and recharge the battery pack.

To prolong the using life of the tool, do not work continually for more than 20 minutes at a time.

## TORQUE REGULATOR

1. When arrow on the top of the housing points to 1 on the Torque indicator scale (D in the functional description), torque is at minimum before the clutch disengages the chuck from the drive.
2. When indicator is just past 23, output is at maximum before it is disengaged. This is useful in driving screws into different types of material.
3. More torque will set a screw deeper into material, less torque will prevent it stripping. Larger screws require more torque to drive than small ones. A little trial and error will show you which is the optimum setting for the situation.
4. Release the trigger when the clicking sound indicates the chuck will not turn further.
5. For drilling, always use the drill  setting, indicated by the pictogram of a drill bit. At this setting, the drive does not disengage from the chuck.



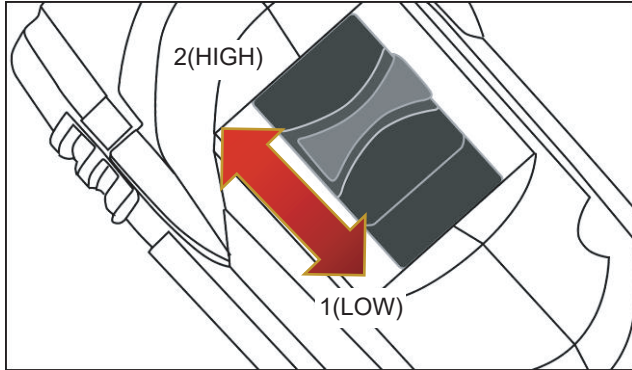
# OPERATION

## GEAR SHIFTING

The tool is equipped with two separate gear ranges, low gear, and high gear. 1(LOW) gear provides high-torque and slower drilling speeds for heavy-duty work or for driving screws. 2(HIGH) gear provides faster speeds for lighter drilling work.

A) Select 1(LOW) speed for applications requiring higher power and torque.

B) Select 2(HIGH) speed for fast drilling or driving applications.

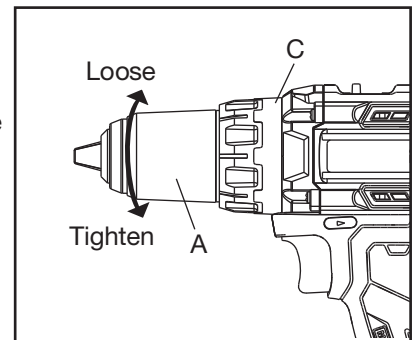


**NOTE:** Never change speeds while the tool is running. Failure to obey this caution could result in serious damage to the drill.

**NOTE:** If you have difficulty changing from one gear range to the other, turn the chuck by hand until the gears engage.

## KEYLESS CHUCK

1. Center the rotation direction knob to prevent the motor from accidentally starting.
2. Note there are two rings on the chuck. Turning the endmost knurled ring, the chuck tightening ring of the chuck (A) clockwise by one hand while with the other hand holding the second chuck stop ring (C) to prevent the motor from turning; this closes the jaws of the chuck.
3. Turning that same chuck tightening ring counter-clockwise opens the jaws. Open the jaws to insert a bit and then close the jaws so they clamp the bit tightly.



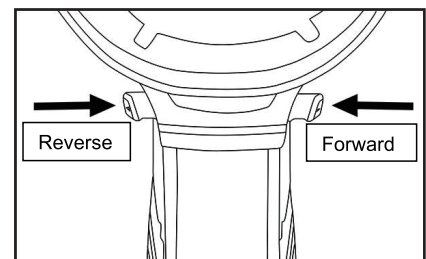
## FORWARD/REVERSING LEVER & TRIGGER LOCK

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



For forward rotation, (with chuck pointed away from you) move the lever to the far left.

For reverse rotation move the lever to the far right. To activate trigger lock move lever to the center off position.



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



# MAINTENANCE

1. Keep the tool clean using a soft damp (not wet) cloth. Do not use solvents on the plastic parts.
2. Lubrication is necessary. After long use, have an authorized service centre maintain and lubricate the tool.
3. Should the chuck require replacement,
  - Remove the battery pack
  - Open the chuck jaws as widely as possible so you can get at the chuck retaining screw.
  - Unscrew the chuck retaining screw with a Philips screwdriver. Note that this is a left hand threaded screw and you remove it by turning it clockwise.
  - Clamp the shorter arm of a large Allen wrench in the chuck, aligning it with the jaws so they grip three of its six flat sides.
  - Place the drill on a flat surface, and support the chuck with a piece of wood about 1/2" (13 mm) above that surface. Or press the drill body on the working table and place the chuck over the edge of the table. (Be careful with your hand!)
  - Strike the long arm of the wrench with a hammer so that the chuck turns counter-clockwise and unscrews from the spindle. This may require a fairly sharp blow.
  - Repeat the process in reverse to install a new chuck.
4. To maintain the best performance of your rechargeable battery, protect it from overheating, both from overcharging and during storage. Occasionally charge the battery for 7 hours.

# PARTS LIST

No.	Description	Qty.	No.	Description	Qty.
11	Screw	1	25	2 Class planet support	1
2	Chuck	1	26	2 Class gear ring	1
3	Elastic ring	1	27	Steel wire	1
4	Souder	1	28	2 Class planet gear	5
5	Shaft	1	29	1 Class gear ring	1
6	Bearing 6800Z	2	30	1 Class planet support	1
7	Torque setting ring	1	31	1 Class planet gear	3
8	Thread ring	1	32	Washer03	1
9	Torque spring	1	33	Motor connecting piece	1
10	Torque washer	1	34	Motor gear	1
11	Screw ST3*14	17	35	Motor	1
12	Front gear box	1	36	Label	1
13	Washer01	1	37	LED transparent cover	1
14	Elastic ring	1	38	Switch	1
15	Pin	6	39	Forward / Reverse switch	1
16	Locking ring	1	40	Steel wire	1
17	Pin	2	41	Variable speed button	1
18	Powder metallurgy plate	1	42	Left housing	1
19	3 Class planet support	1	43	Metal belt hook	1
20	3 Class gear ring	1	44	Screw M4X8	2
21	3 Class planet gear	5	45	Driver bit support	1
22	Washer02	1	46	Double-Ended bit	1
23	Compensating gear	1	47	Right housing	1
24	Rear gear box	1	48	Battery clip assembly	1

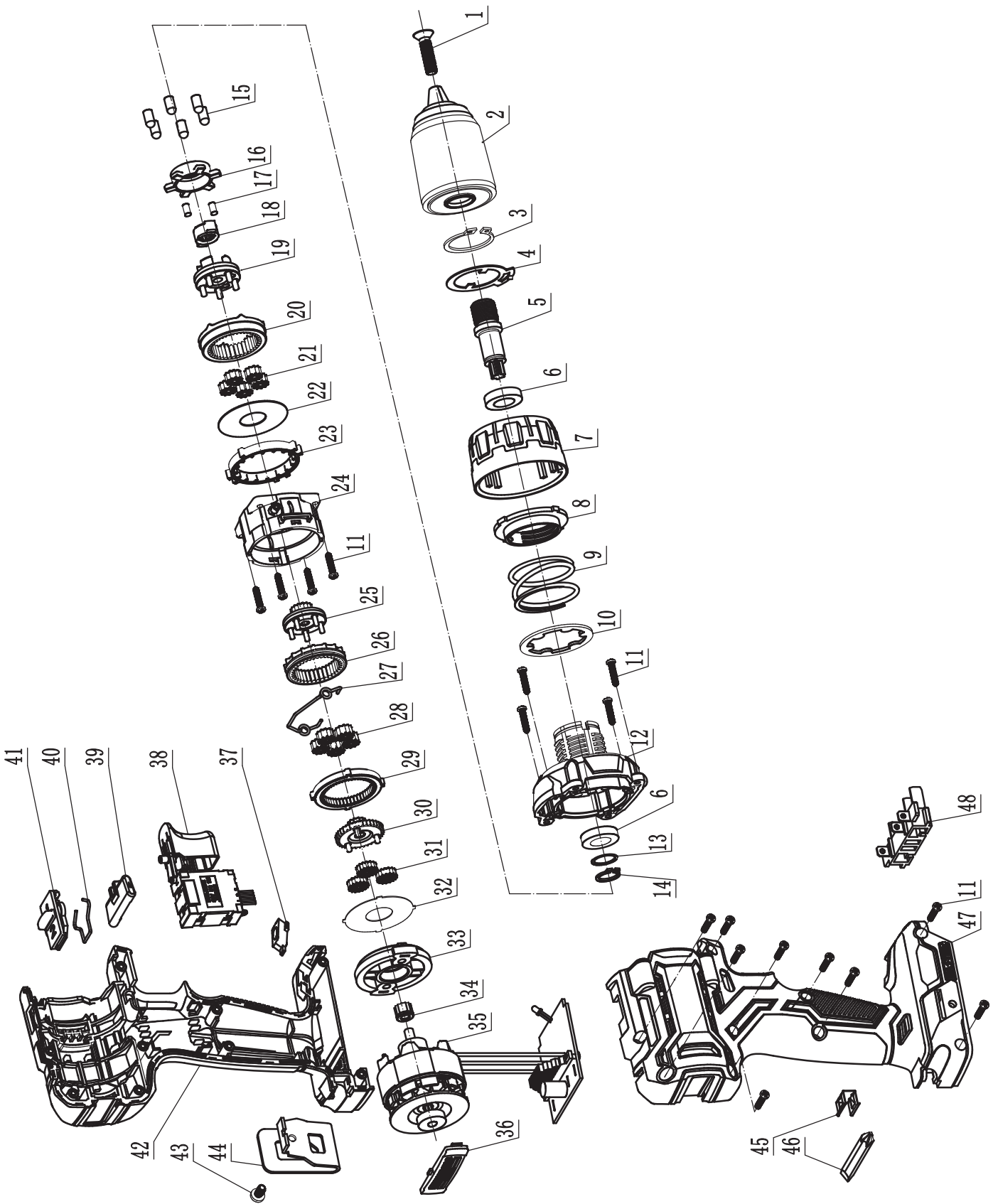
**WARNING:** Repairs should be made by an authorized repair centre. Opening this tool could invalidate your warranty.



**NOTE:** Due to continuous product improvement, we reserve the right to change the product specification without prior notice.



# SCHEMATIC DRAWING



# REPLACEMENT PARTS

- For replacement parts and technical questions, please call Customer Service at 1-866-915-8626.
- 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 1-866-915-8626, 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)

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