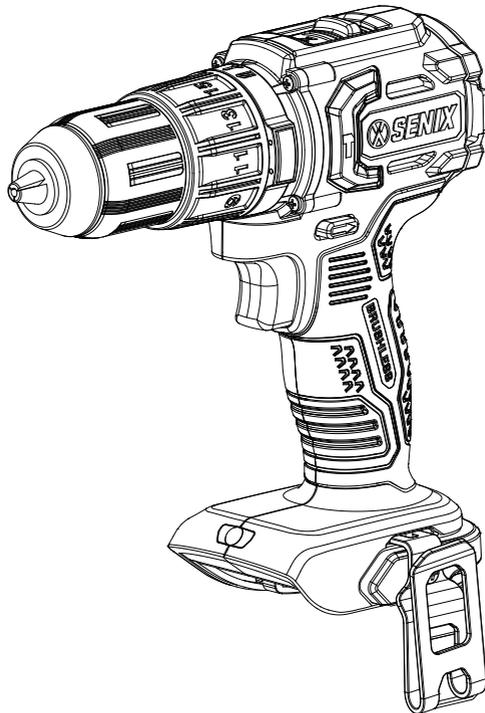




**X2** **18V** **LITHIUM-ION** **BRUSHLESS**™

# CORDLESS HAMMER DRILL/ DRIVER



**CAUTION:** Before using this tool, please read this manual completely, and follow all operating safety measures.

- SAFETY
- ASSEMBLY
- OPERATION
- MAINTENANCE

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# SAFETY & INTERNATIONAL SYMBOLS

Explanation of Safety & International Symbols describes safety and international symbols and pictographs that may appear on this product. Read the operator's manual for complete safety, assembly, operating and maintenance and repair information.



Caution / Warning.



To reduce the risk of injury, user must read instruction manual.



Wear eye protection.



Wear a dust mask.



Wear safety footwear.



Wear protective gloves.



Do not dispose of battery packs in rivers or immerse in water.



Do not dispose of battery packs in fire. They will explode and cause injury.



Use the battery in a maximum temperature of 50°C (122°F).



Do not disassemble, crush, heat above 100°C (212°F); Never expose the battery to microwaves or high pressures.



Keep bystanders a safe distance away from the work area.



Indoor use only. Only use battery charger indoors.



RCM Mark

# SAFETY INSTRUCTIONS

## GENERAL POWER TOOL SAFETY WARNINGS

### WARNING!

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

Save all warnings and instructions for future reference.

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

#### 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 earthed (grounded) power tools.** *Unmodified plugs and matching outlets will reduce risk of electric shock.*
- b. **Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators.** *There is an increased risk of electric shock if your body is earthed or grounded.*
- 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 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.*
  - b. **Use personal protective equipment. Always wear eye protection.** *Protective equipment such as a dust mask, non-skid 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 energising 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 and clothing 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.*
  - h. **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** *A careless action can cause severe injury within a fraction of a second.*

#### 4) Power tool use and care

- a. **Do not force the power tool. Use the**

**correct power tool for your application.**

*The correct power tool will do the job better and safer at the rate for which it was designed.*

- b. **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.*
- c. **Disconnect the plug from the power source and/or remove the battery pack, if detachable, 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.*
- d. **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** *Power tools are dangerous in the hands of untrained users.*
- e. **Maintain power tools and accessories. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** *Many accidents are caused by poorly maintained power tools.*
- f. **Keep cutting tools sharp and clean.** *Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.*
- g. **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** *Use of the power tool for operations different from those intended could result in a hazardous situation.*
- h. **Keep handles and grasping surfaces dry, clean and free from oil and grease.** *Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.*

**5) 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.*
- e. **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.*
- f. **Do not expose a battery pack or tool to fire or excessive temperature.** *Exposure to fire or temperature above 130 °C may cause explosion.*
- g. **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.*

**6) Service**

- a. **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.*
- b. **Never service damaged battery packs.** *Service of battery packs should only be performed by the manufacturer or authorized service providers.*

## SAFETY WARNINGS FOR DRILL

- 1. **Safety Instructions For All Operations**
  - a. Hold the power tool by insulated gripping surfaces when performing an operation where the cutting accessory or fasteners may contact hidden wiring. Cutting accessory or fasteners contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.
- 2. **Safety Instructions When Using Long Drill Bits**

- a. Never operate at higher speed than the maximum speed rating of the drill bit. At higher speeds, the bit is likely to bend if allowed to rotate freely without contacting the workpiece, resulting in personal injury.
- b. Always start drilling at low speed and with the bit tip in contact with the workpiece. At higher speeds, the bit is likely to bend if allowed to rotate freely without contacting the workpiece, resulting in personal injury.
- c. Apply pressure only in direct line with the bit and do not apply excessive pressure. Bits can bend and cause breakage or loss of control, resulting in personal injury.

### 3. Dust/Chip Extraction

Dust from materials such as lead-containing coatings, some wood types, minerals and metal can be harmful to one's health. Touching or breathing in the dust can cause allergic reactions and/ or lead to respiratory infections of the user or bystanders. Certain dust, such as oak or beech dust, is considered carcinogenic, especially in connection with wood-treatment additives (chromate, wood preservative). Materials containing asbestos may only be worked on by specialists.

- a. Ensure the workplace is properly ventilated at all times.
- b. Wearing a P2 filter-class respirator is recommended while working in a dusty environment.
- c. Observe the relevant regulations in your country for the materials to be worked on.
- d. Avoid dust accumulation at the workplace. Dust can easily ignite.

## ADDITIONAL SAFETY INFORMATION FOR DRILL

- a. Secure the workpiece. A workpiece clamped with clamping devices or in a vice is held more securely than by hand.
- b. Always wait until the power tool has come to a complete stop before placing it down. The drill or driving bit can jam and cause you to lose control of the power tool.
- c. Switch the power tool off immediately if the drill or driving bit becomes blocked. Be prepared for high torque reactions which cause kickback. The drill or driving bit becomes blocked when it becomes jammed in the workpiece or when the power tool becomes overloaded.
- d. Use suitable detectors to determine if there are hidden supply lines or contact the

local utility company for assistance. Contact with electric cables can cause fire and electric shock. Damaging gas lines can lead to explosion. Breaking water pipes causes property damage.

- e. Hold the power tool securely. When tightening and loosening screws be prepared for temporarily high torque reactions.
- f. In case of damage or improper use of the battery, vapors may be emitted. The battery can be set aflame or explode. Ensure the area is well ventilated and seek medical attention should you experience any adverse effects. The vapors may irritate the respiratory system.
- g. Do not open the battery. There is a risk of short-circuiting.
- h. The battery can be damaged by pointed objects such as nails or screwdrivers or by force applied externally. An internal short circuit may occur, causing the battery to burn, smoke, explode or overheat.
- i. Only use the battery with products from the manufacturer. This is the only way in which you can protect the battery against dangerous overload.

## SAFETY WARNING FOR BATTERY PACK AND BATTERY CHARGER

- 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.
- Use appliances only with specifically designated battery packs. Use of any other battery packs may create a risk of injury and fire.



### WARNING!

Only use following batteries: B20X2/B25X2/B40X2/B50X2/B60X2/B80X2 and chargers: CHX2/CHQX2/CHQX2-M-EU/CHDX2-M-EU.

- 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.
- 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. (This advice is considered correct for conventional NiMh, NiCd, lead acid and lithium-ion cell types. If this advice is incorrect for a cell design that differs from these, then the correct advice may be substituted.)

- Do not use a battery pack or charger that is damaged or modified. Damaged or modified batteries may exhibit unpredictable behavior resulting in fire, explosion or risk of injury.
- Do not expose a battery pack or charger to fire or excessive temperature. Exposure to fire or temperature above 130°C may cause explosion.
- Follow all charging instructions and do not charge the battery pack or product outside of the temperature range specified in the instructions. Charging improperly or at temperatures outside of the specified range may damage the battery and increase the risk of fire.
- Do not modify or attempt to repair the product or the battery pack (as applicable) except as indicated in the instructions for use and care.

## VIBRATION + NOISE REDUCTION

To reduce the impact of noise and vibration emission, limit the time of operation, use low-vibration and low-noise operating modes as well as wear personal protective equipment. Take the following points into account to minimize the vibration and noise exposure risks.

- Only use the product as intended by its design and these instructions.
- Ensure that the product is in good condition and well maintained.
- Use correct attachments for the product and ensure they are in good condition.
- Keep tight grip on the handles/grip surface.
- Maintain this product in accordance with these instructions and keep it well lubricated (where appropriate).
- Plan your work schedule to spread any high vibration tool use across a longer period of time.

## EMERGENCY

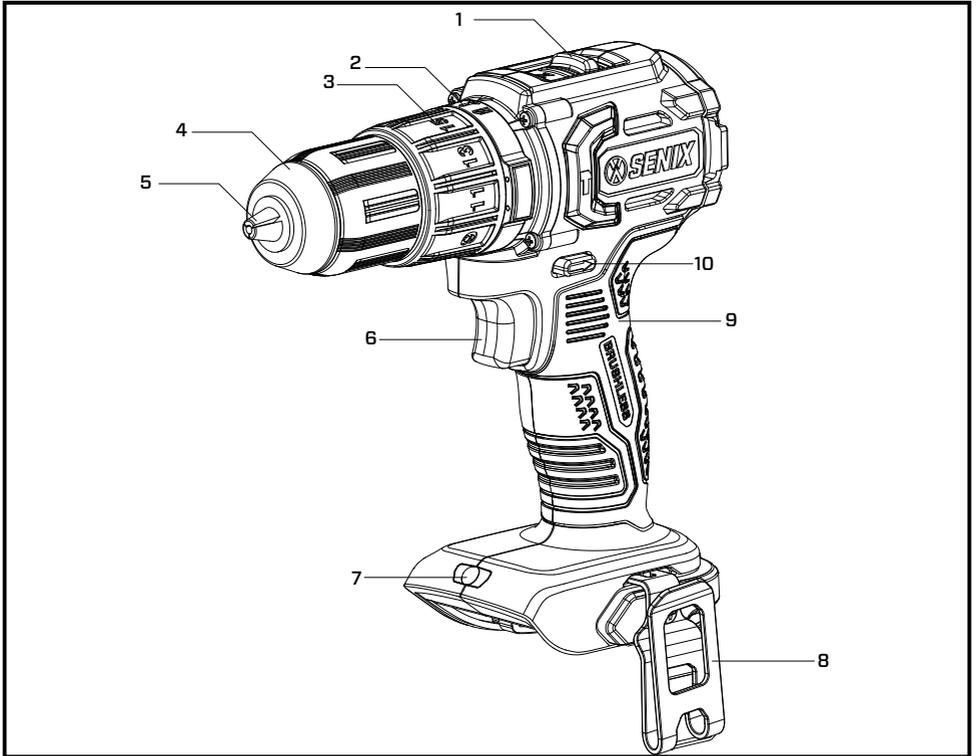
Familiarize yourself with the use of this product by means of this instruction manual. Memorize the safety directions and follow them to the letter. This will help to prevent risks and hazards.

- Always be alert when using this product, so that you can recognize and handle risks early. Fast intervention can prevent serious injury and damage to property.
- Switch off the product and remove the battery pack if there are malfunctions. Have the product checked by a qualified professional and repaired, if necessary, before you operate it again.

## INTENDED USE

This 20V max cordless hammer drill/driver is intended for drilling in wood and metal and masonry materials with drill bits and driving screws into wood and drywall with screwdriver bits. Do not use it for other purposes.

# KNOW YOUR UNIT



## APPLICATIONS

Model: PDHX2-M2-EU

As a cordless hammer drill/driver:

Drilling in wood, metal products and masonry with drill bits;

Driving screws into wood, metal and drywall with screwdriver bits.

1	Speed Selector
2	Function Selector
3	Torque Ring
4	Chuck
5	Jaw

6	Variable Speed Trigger
7	Work Light
8	Belt Clip
9	Handle
10	Direction Selector

# SPECIFICATIONS\*

Model	PDHX2-M2-EU
Motor Type	Brushless
Input Voltage	18 V = (20 V = Max*)
Max Torque	60 Nm
No Load Speed	0-600 / 0-2000 RPM
Beat per Minute	0-10200 / 0-34000 BPM
Chuck Size	13 mm
Chuck Type	13 mm Keyless, Ratcheting Chuck
Drilling Capacity	Steel: 13 mm Wood: 38 mm Masonry: 13 mm
Variable Speed	2 Speed Gearbox
Weight (Tool Only)	1.27 kg

\*20V Max battery, maximum initial battery voltage (measured without a workload) is 20V. The nominal voltage is 18V.

# ASSEMBLY

1. Unpack all parts and lay them on a flat, stable surface:
2. Remove all packing materials and shipping devices, if applicable.
3. The scope of delivery varies depending on the country and purchased variant:  
Model of PDHX2-M2-EU
  - Hammer drill x1
  - Belt clip x1
  - Instruction manual x1
4. If you find that parts are missing or show damage do not use the product and contact your dealer. Using an incomplete or damaged product represents a hazard to people and property.
5. Ensure that you have all the accessories and tools needed for assembly and operation. This also includes suitable personal protective equipment.



## WARNING:



Wear protective gloves for this assembly work and always lay the product on a flat and stable surface while assembling. Follow the assembly instructions step-by-step and use the pictures provided as a visual guide to easily assemble the product! Do not insert the battery pack before the power tool is completely assembled or adjusted!

## BELT CLIP

Fix the belt clip to either side of tool by screw. Make sure the belt clip is firmly installed so that it can support the weight of the tool.

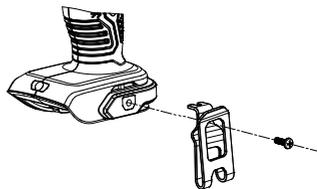


Fig. 1

## BIT



## WARNING:

Observe the technical requirements of this product (see section "SPECIFICATIONS") when purchasing and using bit. Always use special bits according to the work to be performed. The chuck and the bit can be very hot after working, do not assemble/disassemble them before cooling down.

To install:

Turn the chuck clockwise to open the jaw. Align and insert the bit as far as into the jaw. Then turn the chuck counterclockwise so that the jaws evenly secure onto the bit. Continue tightening until the chuck begins to ratchet onto the bit.

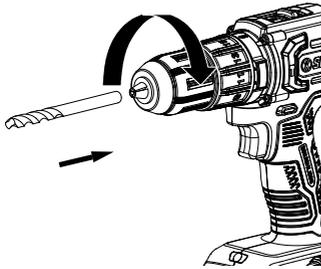


Fig. 2

To remove:  
Turn the chuck counterclockwise to open the jaw and pull the bit out of the jaw.

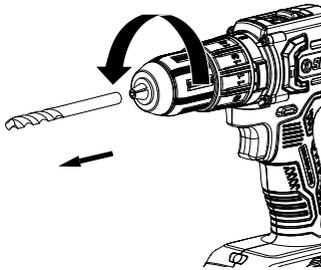


Fig. 3

**i NOTE:**  
Make sure the bit is fixed firmly and will never come out before use.

## BATTERY PACK

**i NOTE:**  
Prior to installation, lock the switch trigger by moving the direction selector to the center lock position to avoid unintentional start.

To install:  
Align and slide the battery pack to the battery foot until it is locked in place.

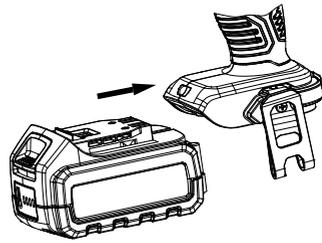


Fig. 4

To remove:  
Press the release button on battery pack and slide the battery pack out.

## OPERATION



### WARNING:

Always wear eye, hearing, hand protection to reduce the risk of injury when operating the tool. Keep all parts of your body away from the rotating bit.

## RUNNING DIRECTION

The motor runs forward or backward for driving the bit in or out. It is controlled by the direction selector.



### WARNING:

Do not change direction of rotation while chuck is rotating.

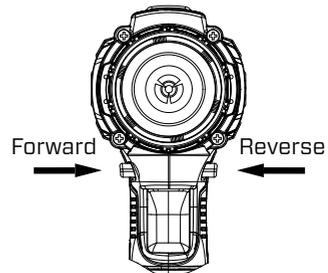


Fig. 5

Mode	Application
Forward	Driving screws or drilling with drill bits
Reverse	Backing out screws or drill bits
Center Lock	Locking the trigger

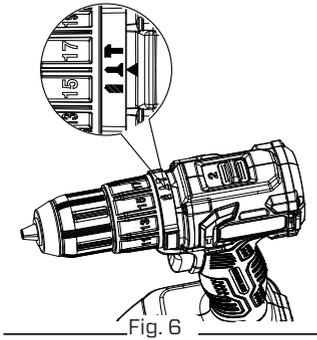


### NOTE:

When changing bits or when the tool is not in use, the direction selector shall be kept in "center lock" position to avoid unintended start.

## FUNCTION

Rotate the mode selector so the arrow is pointing to desired mode.

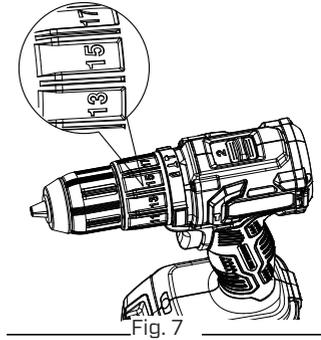


Mode	Setting	Application
Driving		Driving screws, bolts.
Drilling		Drilling in wood and metal.
Impact Drilling		Drilling in masonry.

## TORQUE

Select a suitable torque value from 1-19 when

in Driving mode on the torque ring. Rotate the clutch until the arrow points to the desired torque setting. The driving depth of the fastener will be limited when the preset torque is reached.



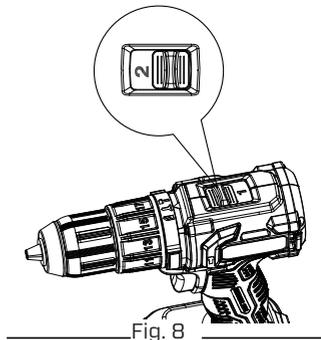
### NOTE:

The torque required depends on the type and size of the fastener to be driven, as well as the material to be driven into.

## SPEED SETTINGS

Mode	Setting	Application
Low	1	0-600 RPM
High	2	0-2,000 RPM

The tool reaches its highest speed when the selector is set to the "2" setting.





## WARNING:

Only switch the speed selector when the power tool is completely stopped.

## SWITCHING ON/OFF

1. Press the trigger to switch on the power tool. It will stop when the trigger is released.
2. Applying more pressure to the trigger leads to faster speeds under current speed setting.
3. The work light automatically turns on when trigger is pressed and turns off a few seconds after the tool stops.

## OVERHEAT PROTECTION

When the tool/battery is overheated, the tool stops automatically. In this situation, let the power tool/battery cool before turning the tool on again.

## OVERDISCHARGE PROTECTION

When the battery capacity is not enough, the tool stops automatically. In this case, remove the battery from the tool and charge the battery.

## PRACTICAL ADVICE

1. **General**
  - a. Ensure the tool is fitted with a suitable bit for current work and the direction selector is at center lock position before start.
  - b. Always keep the product perpendicular to the work area. Otherwise, bit is more likely to slip or be jammed and cause damage to the tool.
  - c. Place the power tool in a start position first and then switch the product on.
  - d. The feeding force and running speed depends on tool characteristics and the work material. Excessive feeding force will overload the power tool and increase the risk of losing control. Ask a power tool specialist for advice if necessary.
  - e. If the tool gets stuck in work area, switch off and try to perpendicularly draw it out with slight force to avoid damage. If this does not work, switch to reverse mode, run the tool at a slow speed and perpendicularly draw out with slight force.
  - f. Check the power tool and its clamping

status regularly during work. Refit or replace it if necessary.

### 2. Wood/Metal Drilling

- a. Attach a bit designed for drilling and set the function selector to .
- b. Pre-drill larger holes with a small diameter drill bit in advance for a easier operation and better result.
- c. In order to prevent the bit from slipping, punch a point beforehand especially when drilling metals.
- d. Start with a low speed. Gradually increase speed as drill bit bites into material.
- e. When drilling through holes, place a block or wood behind the workpiece to prevent ragged edges on the back side of the hole.
- f. If necessary, use a cooling lubricant when drilling metal.

### 3. Screw Driving

- a. Attach a screwdriver bit and set the function selector to .
- b. Select a proper torque according to the type and size of screw and material work area.
- c. Pre-drill a hole of proper diameter and depth before driving big screws into work area.
- d. Hold the tool perpendicular to the screw head and keep the bit tip well fitted into the screw recess, then switch on the tool.
- e. Start at a low speed. Gradually increase speed as the screw is driven in.
- f. Remove a jammed screw in the reverse mode.

### 4. Masonry Drilling

- a. Install a specialty bit designed for masonry drilling and set the function selector to .
- b. Drill evenly keeping a uniform force on the drill, don't force too much otherwise some brittle materials are likely to be cracked.
- c. If you are experiencing a smooth, even flow of dust, that indicates a good drill rate is applied.
- d. Occasionally pull the bit out to clean dust and chips if you are drilling a deep bore hole into masonry.

# MAINTENANCE



## WARNING:

Only perform cleaning and maintenance work according to these instructions!

All further works must be performed by a qualified specialist!



## WARNING:

**TO PREVENT SERIOUS INJURY FROM ACCIDENTAL OPERATION:** Make sure the trigger is locked and battery pack is removed 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.

There are no user-serviceable parts in your power tool.

If any of following conditions are found, stop using it and send it to the authorized service center for repair.

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

## CLEANING

1. Clean dust and debris from air vents.
2. Keep handle clean, dry and free of oil or grease.
3. Make sure the chuck is not clogged with debris.
4. Remove stubborn dirt from housing with high pressure air (max. 3 bar).



## NOTE:

Do not use chemical, alkaline, abrasive or other aggressive detergents or disinfectants to clean this product as they might be harmful to its surfaces.

## TRANSPORTATION

1. Ensure the direction selector is in the center lock position.
2. Only carry by its handle.

3. Protect from any heavy impact or strong vibrations which may occur during transportation in vehicles.
4. Secure to prevent it from slipping or falling over.

## STORAGE

1. Clean thoroughly as described above.
2. Store in a dark, dry, frost-free and well-ventilated area that is inaccessible to children. Store the battery within a temperature range of 0°C - 25°C.
3. Use original package for storage or cover with a suitable cloth to protect it against dust.

## DISPOSAL

Waste product should not be disposed of with household waste. Please recycle where facilities exist.

Check with your local authority or retailer for recycling advice.

Debris or dust may produced by the tool during operation, users should clean these objects to protect environment.



Electrical products should not be discarded with household products. Used electrical products must be collected separately and disposed of at collection points provided for this purpose. Talk with your local authorities or dealer for advice on recycling.

## TROUBLESHOOTING

Suspected malfunctions are often due to causes that the users can fix themselves. Therefore, check the product using this section. In most cases the problem can be solved quickly.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Product does not start	Direction selector at center locking position	Switch the direction selector to proper side
	Battery pack not properly attached	Attach properly
	Battery pack discharged	Charge the battery pack
Product does not reach full power	Battery pack capacity too low	Charge the battery pack
	Battery pack reaches its life cycle	Replace with new battery pack
	Incorrect torque setting	Adjust to a proper torque setting
Unsatisfactory result	Drill/screwdriver bit is dull/damaged	Replace with new one
	Drill/screwdriver bit is not suitable for intended operation	Use proper drill/screwdriver bit.





