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21V 2.0Ah Cordless Electric Drill Set



Model No.: ED-LX1

User Manual

Starting, Stopping and Controlling Speed

- To start the tool, grasp the handles firmly and pull the trigger.
NOTE: An LED is turned on when the trigger is pulled.
- To vary the speed, increase or decrease the pressure on the trigger. The further the trigger is pulled, the greater the speed.
- To stop the tool, release the trigger. Make sure the bit comes to a complete stop before laying the tool down.

Drilling
Place the bit on the work surface and apply firm pressure before starting. Too much pressure will slow the bit and reduce drilling efficiency. Too little pressure will cause the bit to slide over the work area and dull the point of the bit.
If the tool begins to stall, reduce pressure slightly to allow the bit to regain speed. If the bit binds, reverse the motor to free the bit from the workpiece.

APPLICATIONS

WARNING To reduce the risk of electric shock, check work area for hidden pipes and wires before drilling or driving screws.

Drilling in Wood, Composition Materials and Plastic

When drilling in wood, composition materials and plastic, select the drill-only operating mode. Start the drill slowly, gradually increasing speed as you drill. When drilling into wood, use wood augers or twist drill bits. Always use sharp bits. When using twist drill bits, pull the bit out of the hole frequently to clear chips from the bit flutes. To reduce the chance of splintering, back work with a piece of scrap wood. Select low speeds for plastics with a low melting point.

Drilling in Metal

When drilling in metal, select the drill-only operating mode. Use high speed steel twist drills or hole saws. Use a center punch to start the hole. Lubricate drill bits with cutting oil when drilling in iron or steel. Use a coolant when drilling in nonferrous metals such as copper, brass or aluminum. Back the material to prevent binding and distortion on breakthrough.

Driving Screws and Nut Running

Drill a pilot hole when driving screws into thick or hard materials. Select driver metal clutch setting. Set the torque selector collar to the proper position and set the speed to low. Use the proper style and size screwdriver bit for the type of screw you are using. With the screwdriver bit in the screw, place the tip of the screw on the workpiece and apply firm pressure before pulling the trigger. Screws can be removed by reversing the motor.

Overloading

Continuous overloading may cause permanent damage to tool or battery pack.

MAINTENANCE

WARNING To reduce the risk of injury, always unplug the charger and remove the battery pack from the charger or tool before performing any maintenance.

Maintaining Tool

Keep your tool, battery pack and charger in good repair by adopting a regular maintenance program. After six months to one year, depending on use, check the tool, battery pack and charger

- Lubrication
- Mechanical inspection and cleaning (gears, spindles, bearings, housing, etc.)
- Electrical inspection (battery pack, charger, motor)

Testing to assure proper mechanical and electrical operation
If the tool does not start or operate at full power with a fully charged battery pack, clean the contacts on the battery pack. If the tool still does not work properly, return the tool, charger and battery pack to the dealer service center repairs.

WARNING To reduce the risk of personal injury and damage, never immerse your tool, battery pack or charger in liquid or allow a liquid to flow inside them.

Cleaning

Clean dust and debris from charger and tool vents. Keep tool handles clean, dry and free of oil or grease. Use only mild soap and a damp cloth to clean the tool, battery pack and charger since certain cleaning agents and solvents are harmful to plastics and other insulated parts. Some of these include gasoline, turpentine, lacquer thinner, paint thinner, chlorinated cleaning solvents, ammonia and household detergents containing ammonia. Never use flammable or combustible solvents around tools.

CORDLESS DRIVER DRILL SAFETY WARNINGS

- Use auxiliary handle(s), if supplied with the tool. Loss of control can cause personal injury.
- Hold power tool by insulated gripping surfaces, 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.
- Hold power tool by insulated gripping surfaces, when performing an operation where the fastener may contact hidden wiring. Fasteners contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.
- Always be sure you have a firm footing. Be sure no one is below when using the tool in high locations.
- Hold the tool firmly.
- Keep hands away from rotating parts.
- Do not leave the tool running. Operate the tool only when hand-held.
- Do not touch the drill bit or the workpiece immediately after operation; they may be extremely hot and could burn your skin.
- Some material contains chemicals which may be toxic. Take caution to prevent dust inhalation and skin contact. Follow material supplier safety data.

SAVE THESE INSTRUCTIONS.

WARNING:

DO NOT let comfort or familiarity with product (gained from repeated use) replace strict adherence to safety rules for the subject product. MISUSE or failure to follow the safety rules stated in this instruction manual may cause serious personal injury.

Symbols

The followings show the symbols used for tool.

v	volts
—	direct current
n	no load speed
.../min	revolutions or reciprocation per minute
r/min	

IMPORTANT SAFETY INSTRUCTIONS

FOR BATTERY CARTRIDGE

- Before using battery cartridge, read all instructions and cautionary markings on (1) battery charger, (2) battery, and (3) product using battery.
- Do not disassemble battery cartridge.
- If operating time has become excessively shorter, stop operating immediately. It may result in a risk of overheating, possible burns and even an explosion.
- If electrolyte gets into your eyes, rinse them out with clear water and seek medical attention right away. It may result in loss of your eyesight.
- Do not short the battery cartridge:
 - Do not touch the terminals with any conductive material.
 - Avoid storing battery cartridge in a container with other metal objects such as nails, coins, etc.
 - Do not expose battery cartridge to water or rain.

A battery short can cause a large current flow, overheating, possible burns and even a breakdown.

- Do not store the tool and battery cartridge in locations where the temperature may reach or exceed 50 °C (122 °F).
- Do not incinerate the battery cartridge even if it is severely damaged or is completely worn out. The battery cartridge can explode in a fire.
- Be careful not to drop or strike battery.
- Do not use a damaged battery.

SAVE THESE INSTRUCTIONS.

Tips for maintaining maximum battery life

- Charge the battery cartridge before completely discharged. Always stop tool operation and charge the battery cartridge when you notice less tool power.
- Never recharge a fully charged battery cartridge. Overcharging shortens the battery service life. Charge the battery cartridge with room temperature at 10 °C - 40 °C (50 °F - 104 °F). Let a hot battery cartridge cool down before charging it.

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General Power Tool Safety Warnings

WARNING Read all safety warnings and all instructions. Failure to follow the warnings and instructions 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.

Work area safety

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

Electrical Safety

- 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.
- 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.
- Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.
- 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.
- 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.
- If operating a power tool in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) protected supply. Use of an GFCI reduces the risk of electric shock.

Personal Safety

- 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.
- 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.

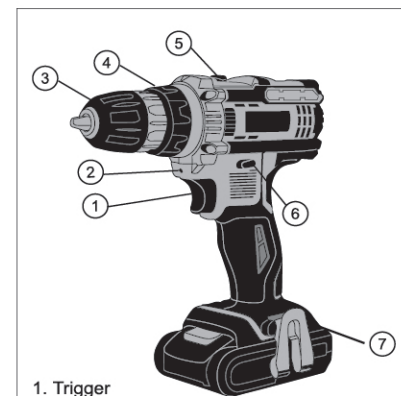
- Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool. Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.
- Remove any adjusting 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.
- Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
- 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.
- 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.

Power tool use and care

- 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.
- 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.
- 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.
- 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.
- 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.
- Keep cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- 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.

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FUNCTIONS



- Trigger
- LED
- Keyless chuck
- Torque selector collar
- Speed Selector
- Control switch
- Battery

ASSEMBLY

WARNING Recharge only with the charger specified for the battery. For specific charging instructions, read the operator's manual supplied with your charger and battery.

Inserting/Removing the Battery

To remove the battery, push in the release buttons and pull the battery pack away from the tool. To insert the battery, slide the pack into the body of the tool. Make sure it latches securely into place.

OPERATION

WARNING Always remove battery pack before changing or removing accessories. Only use accessories specifically recommended for this tool. Others may be hazardous.

WARNING To reduce the risk of injury, wear safety goggles or glasses with side shields.

Installing Bits

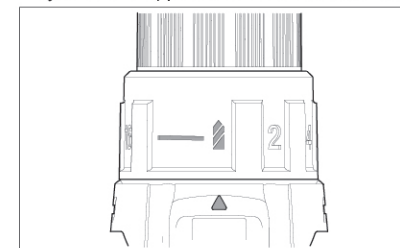
Always remove the battery before inserting or removing bits. Select the proper style and size bit for the job.

- To open the chuck jaws, turn the sleeve in the counterclockwise direction. When using drill bits, allow the bit to strike the bottom of the chuck. Center the bit in the chuck jaws and lift it about 1/16" off of the bottom. When using screwdriver bits, insert the bit far enough for the chuck jaws to grip the hex of the bit.
 - To close the chuck jaws, turn the sleeve in the clockwise direction. The bit is secure when the chuck makes a ratcheting sound and the sleeve can not be rotated any further.
 - To remove the bit, turn the sleeve in the counterclockwise direction.
- NOTE:** A ratcheting sound may be heard when the chuck is opened or closed. This noise is a part of the locking feature, and does not indicate a problem with the chuck's operation.

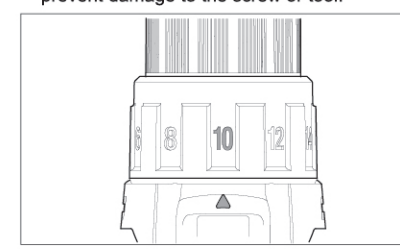
OPERATIONS

Selecting Drill or Drive Action

- To use the drilling mode, rotate the torque selector collar until the drill symbol appears in line with the arrow.



- To use the driving mode rotate the torque selector collar until the desired clutch setting appears in line with the arrow. The adjustable clutch, when properly adjusted will slip at a preset torque to prevent driving the screw too deep into different materials and to prevent damage to the screw or tool.



The torque specifications shown here are approximate values obtained with a fully charged battery pack.

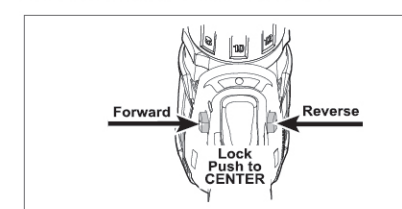
HOW TO SELECT THE TORQUE COLLAR

Clutch Setting	N.m	Applications
1-3	13-14	Small screws in softwood.
4-6	15-17	Medium screws in softwood or small screws in hardwood.
7-9	17-21	
10-13	22-26	Large screws in softwoods. Medium screws in hardwood or large screws in hardwood with pilot hole.
14-17	27-31	
18	35	

NOTE: Because the settings shown in the table are only a guide, use a piece of scrap material to test the different clutch settings before driving screws into the workpiece.

Using the Control Switch

The control switch may be set to three positions: forward, reverse and lock. Due to a lockout mechanism, the control switch can only be adjusted when the ON/OFF switch is not pressed. Always allow the motor to come to a complete stop before using the control switch. For forward (clockwise) rotation, push in the control switch from the right side of the tool. Check the direction of rotation before use.



For reverse (counterclockwise) rotation, push in the control switch from the left side of the tool. Check direction of rotation before use. To lock the trigger, push the control switch to the center position. The trigger will not work while the control switch is in the center locked position. Always lock the trigger or remove the battery pack before performing maintenance, changing accessories, storing the tool and any time the tool is not in use.

WARNING To reduce the risk of injury, always hold or brace securely.

Selecting Speed (Two Speed model only)

The speed selector is on top of the motor housing. Allow the tool to come to a complete stop before changing speeds. See "Applications" for recommended speeds under various conditions.

- For Low speed, push the speed selector to display "1".
- For High speed, push the speed selector to display "2".

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