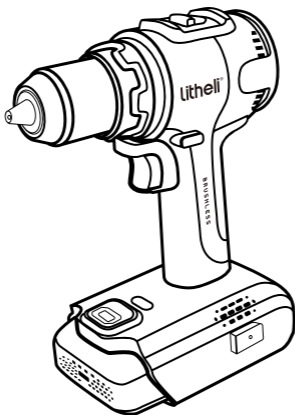


U20 BRUSHLESS DRILL DRIVER

Model No.: U20DD00-0A120

Supplier Model No. For Certification: EPT010024



WARNING:

To reduce the risk of injury, the user must read and understand the user manual before using this product.

Save this manual for future reference.

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READ ALL INSTRUCTIONS!

⚠ WARNING: Some dust created by power sanding, sawing, grinding, drilling and other construction activities contains chemicals known to the state of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints,
 - Crystalline silica from bricks and cement and other masonry products, and
 - Arsenic and chromium from chemically-treated lumber.
- Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well-ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

Important Safety Instructions

⚠ WARNING:
Only use the accessories that are provided with this product or the accessories approved by Litheli. Use other accessories might increase the risk of injury. Follow the instructions in this manual to properly use the accessories.

⚠ WARNING:
This product can expose you to chemicals including lead and Di(2-ethylhexyl) phthalate (DEHP) which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

The appliance is only to be used with the power supply unit provided with the appliance.

GENERAL POWER TOOL SAFETY WARNINGS

⚠ WARNING:
Read all safety warnings and instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

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

Save all warnings and instructions for future reference.

1. WORK AREA SAFETY

- a.Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- b.Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.
- c.Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

2. ELECTRICAL SAFETY

- a.Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with 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 inattention while operating power tools may result in serious personal injury.

- b. Use personal protective equipment. Always wear eye protection.** Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- c. Prevent unintentional starting. Ensure the trigger is in the off-position before connecting to the power source, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents.
- d. Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- e. Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- f. Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewelry 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 it cannot be turned on/off by the switch.** 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 (BATTERY TOOLS)

- 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 DRIVER

Safety instructions for all operations:

- 1.** Hold the 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.

Safety instructions when using long drill bits:

- 1.** 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.
- 2.** Always start drilling at low speed and with the bit tip in contact with the workpiece.
- 3.** At higher speeds, the bit is likely to bend if allowed to rotate freely without contacting the workpiece, resulting in personal injury.

4. Apply pressure only in direct line with the bit and do not apply excessive pressure. Bits can bend causing breakage or loss of control, resulting in personal injury.

SAFETY WARNINGS FOR BATTERY PACK

1. Do not modify or attempt to repair the battery pack. Do not dismantle, open or shred battery pack.
2. Do not expose a battery pack or appliance to fire or excessive temperature. Exposure to fire or temperature above 265°F (130°C) may cause explosion.
3. Do not short-circuit a battery pack. Do not store battery packs haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects. 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 fire.
4. Do not subject battery pack to mechanical shock.
5. Observe the plus (+) and minus (-) marks on the battery back and equipment and ensure correct use.
6. Keep battery pack out of the reach of children.
7. Always purchase the battery pack recommended by the device manufacturer for the equipment.
8. Keep battery pack clean and dry.
9. Wipe the battery pack terminals with a clean dry cloth if they become dirty.
10. Battery pack need to be charged before use. Always use the correct charger and refer to the manufacturer's instructions or equipment manual for proper charging instructions.
11. Do not leave battery pack on prolonged charge when not in use.
12. After extended periods of storage, it may be necessary to charge and discharge the battery pack several times to obtain maximum performance.
13. Battery pack gives its best performance when it is operated at normal room temperature (20 °C ± 5 °C).


14. Use only the battery pack in the application for which it was intended. Do not use a battery pack or appliance that is damaged or modified. Damaged or modified batteries may exhibit unpredictable behavior resulting in fire, explosion or risk of injury.
15. Remove the battery pack from the equipment when not in use.
16. Dispose of properly.
17. Do not handle the charger, including charger plug, or charger terminals with wet hands.
18. Do not charge the battery pack outdoors, in rain, or in wet locations.
19. 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.
20. Use power tools only with specifically designated battery packs. Use of any other battery packs may create a risk of injury and fire.
21. 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.

Save these instructions. Refer to them frequently and use them to instruct others who may use this tool. If you lend this tool to someone else, also lend these instructions to them to prevent misuse of the product and possible injury.







Safety Symbols







The purpose of safety symbols is to attract your attention to possible danger. The safety symbols and the explanations with them deserve your careful attention and understanding. The symbol warnings do not, by themselves, eliminate any danger. The instruction and warnings they give are no substitutes for proper accident prevention measures.

The following signal words and meanings are intended to explain the levels of risk associated with this product.

SYMBOL	SIGNAL	MEANING
	WARNING	Indicates a hazardous situation, which, if not avoided, could result in death or serious injury.
	NOTICE	(Without Safety Alert Symbol) Indicates information considered important, but not related to a potential injury (e.g. messages relating to property damage).

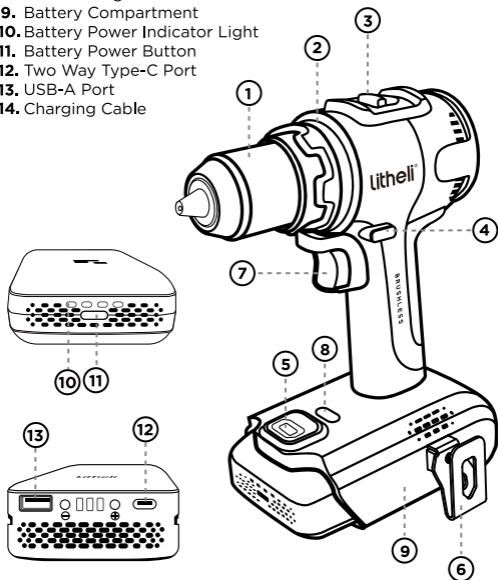
Some of the following symbols may be used on this product. Please study them and learn their meaning. Proper interpretation of these symbols will allow you to operate the product better and safer.

Symbol	Description	Symbol	Description
	To reduce the risk of injury, user must read instruction manual.		Do not use in the rain.
	SAFETY ALERT - indicate a precaution, a warning or a danger.		Wear hearing protection.
	Keep bystanders away.		Wear eye protection.

Symbol	Description	Symbol	Description
	Wear safety footwear.		CAUTION! Beware of stone or other foreign objects that could be thrown from the appliance.
	Do not burn the battery pack.		Indoor use only. Only use battery charger indoors.
	Batteries may enter water cycle if disposed of improperly, which can be hazardous to the ecosystem. Do not dispose of old batteries as unsorted municipal waste.		Li-Ion battery. This product has been marked with a symbol relating to 'separate collection' for all battery packs and battery pack. It will then be recycled or dismantled in order to reduce the impact on the environment. Battery packs can be hazardous for the environment and for human health since they contain hazardous substances.

Know Your Tools

1. Keyless Chuck
2. Torque-Adjustment Ring
3. Two-Speed Gearbox Switch
4. Direction-of-Rotation Selector
5. Battery Release Button
6. Removable Belt Clip
7. Trigger Switch
8. LED Worklight
9. Battery Compartment
10. Battery Power Indicator Light
11. Battery Power Button
12. Two Way Type-C Port
13. USB-A Port
14. Charging Cable



Technical Data

Item No.	J0Z-WYT08BL-18Li
Voltage	12V
Max Chunk Size	φ13mm(1/2")
No Load Speed	First Gear: 500rpm/±10% Second Gear : 2000r/±10%
Torque Setting	18 Positions
Max. Torque	60 N.
Battery	2000mAh Lithium-ion battery
Max. Charging Input*	45W
Machine Weight (Battery Excluded)	2.65Lbs

* Charger is not supplied with this product. You should prepare a 45W charger to work with the supplied charging cable for charging.

Packing List

Part Name	Quantity
Drill Driver	1
Battery Pack	1
Operator's Manual	1

Litheli BATTERY (U-BATTERY PLUS)

NOTICE:

- Use only Litheli U-BATTERY PLUS for this appliance.
- This Litheli U-BATTERY PLUS is not resistant to water or dust. Please always keep this battery dry and clean when in use and storage. Do not allow water or moisture enter this battery.

- Benefiting from the innovative battery replacement design, the battery can be exchanged easily.
- Short charging time, and minimal heating while charging.
- The same lithium-ion electrochemistry which is for new energy vehicles.
- Can work as power bank and charge mobile phones and laptops.



Charging Your Battery

⚠ WARNING: Only use the accessories that are provided with this product or the accessories approved by Litheli. Use other accessories might increase the risk of injury. Follow the instructions in this manual to properly use the accessories.

⚠ WARNING: Charge the battery in a dry and ventilated room, far away from combustibles and ignition sources.
NOTICE: Charger is not supplied with this appliance. You should prepare a 45w charger to work with the supplied charging cable for charging. Make sure the charger meets the requirement (Max. Charging Input) in Technical Data.

NOTICE: Lithium-ion batteries are shipped partially charged. Before using it the first time, fully charge the battery.

BATTERY POWER INDICATOR

The battery supplied with this appliance is equipped with 4 battery power indicator lights which indicate the charge remained in the battery. Press the battery power button to check the remaining power.

The power level will be shown as following when charging:

- a. When only one indicator shows flashing, the battery needs to be charged.
- b. During the charging process, the indicators will light up one by one according to the charging situation, the indicator corresponding to the part that is full is always on, and the indicator of the part that is not fully charged flashes.
- c. All 4 indicator lights light up when the battery is fully charged.

NOTICE:

- If the battery power indicator lights 1&2 flash, it indicates an abnormal voltage situation.
- If the battery power indicator lights all flash, it indicates an abnormal or temperature situation.

Power Level	LED1	LED2	LED3	LED4
0-15%	Flashing	Off	Off	Off
15-35%	On	Flashing	Flashing	Flashing
35-65%	On	On	Flashing	Flashing
65-90%	On	On	On	Flashing
Fully Charged	On	On	On	On
Voltage Error	Flashing	Flashing	Off	Off
Temp Error	Flashing	Flashing	Flashing	Flashing

CHARGING PROCEDURE:

- a. Remove the battery from the appliance.
- b. Use the supplied charging cable, insert the Type-C male connector at one end into the Two Way Type-C Port at the bottom of the battery.
- c. Connect the other end of the charging cable to the charger (not supplied), and connect the charger to the power supply for charging. Running light shows current battery level when charging.

- d.** When all the battery power indicator lights stay on, the battery are fully charged. Remove the battery from the charger and disconnect them from the charging cable.

TIPS:

- a.** The battery is not fully charged when leaving the factory, so be sure to fully charge the battery before first use.
- b.** Do not charge the battery at temperatures below 5°C or above 40°C.
- c.** When the working time of this appliance becomes significantly shorter, or the charging time becomes longer, it is recommended to replace the battery for a new one.
- d.** The battery features overcharge protection, over-discharge protection and short circuit protection.
- e.** The battery features overheating protection, and the output voltage for charging/powering devices which is operated in conformity with the instructions in this Manual is within a safe range, ensuring the safety for users.
- f.** To avoid accidents, do not disassemble or modify the machine or the battery.

Operation

⚠ WARNING: To reduce the risk of fire, personal injury, and product damage due to a short circuit, never immerse your tool, battery pack or charger in fluid or allow a fluid to flow inside them. Corrosive or conductive fluids, such as seawater, certain industrial chemicals, and bleach or bleach-containing products, etc, can cause a short circuit.

⚠ WARNING: If any parts are damaged or missing, do not operate this product until the parts are replaced. Use of this product with damaged or missing parts could result in serious personal injury.

⚠ WARNING: Do not attempt to modify this product or create accessories not recommended for use with this string trimmer. Any such alteration or modification is misuse and could result in a hazardous condition leading to possibly serious personal injury.

⚠ WARNING: Always remove the battery pack from the product when you are assembling parts, making adjustment, cleaning, or when the product is not in use.

TO INSTALL/REMOVE BATTERY PACK

Lock the trigger switch “OFF” on the tool by placing the direction-of-rotation (forward/center lock/reverse) selector in the center position.

To install the battery pack:

Align the raised rib on the battery pack with the grooves in the tool, and then slide the battery pack onto the tool.(Fig.1)

NOTICE:

When placing the battery pack on the tool, be sure that the raised rib on the battery pack aligns with the groove in the tool and that the latches snap into place properly. Improper attachment of the battery pack can cause damage to internal components.

To remove the battery pack:

Press the battery release button, and the battery will pop out from the compartment automatically. Hold the batteries and remove them from the machine. (Fig.1)

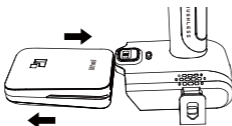


Fig. 1

⚠ WARNING: Battery tools are always in operating condition. Therefore, the direction-of-rotation (forward/center-lock/reverse) selector should always be locked in the center position when the tool is not in use or when carrying it at your side.

DIRECTION-OF ROTATION(FORWARD/CENTER-LOCK/REVERSE) SELECTOR

⚠ WARNING: After tool use, lock the direction-of-rotation selector in the “OFF” position (center-lock) to help prevent accidental starts and possible injury.

Your tool is equipped with a direction-of-rotation selector, located above the trigger switch. This selector is designed for changing the direction of rotation of the bit and for locking the trigger in the “OFF” (center-lock) position (Fig. 2).

- Position the direction-of-rotation selector to the far right of the tool for forward rotation.
- Position the direction-of-rotation selector to the far left of the tool for reverse rotation.
- Setting the switch in the “OFF” (center-lock) position helps reduce the possibility of accidental starting when not in use.

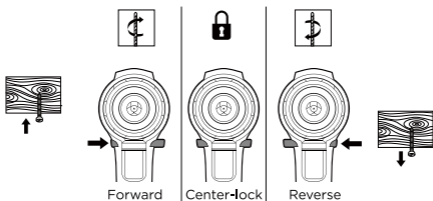


Fig. 2

NOTICE: To prevent gear damage, always allow the drill driver to come to a complete stop before changing the direction of rotation.

NOTICE: The drill driver will not run unless the direction-of-rotation selector is engaged fully to the left or the right.

VARIABLE-SPEED TRIGGER SWITCH

Your tool is equipped with a variable-speed trigger switch. The tool can be turned “ON” or “OFF” by depressing or releasing the variable-speed trigger switch.

The variable-speed trigger switch delivers higher speed with increased trigger pressure and lower speed with decreased trigger pressure (Fig. 3).

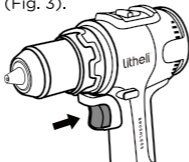
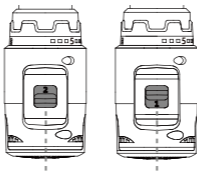


Fig. 3

TWO-SPEED GEARBOX SWITCH

Your tool is equipped with a two-speed gearbox designed for drilling or driving at LO (1) or HI (2) speeds. A slide switch is located on the top of the tool to select either LO (1) or HI (2) speed (Fig. 4).



Two-speed Gearbox Switch


Fig. 4

LO (1) speed provides higher torque and slower drilling speeds for heavy-duty work or for driving screws, drilling large diameters, or tapping threads. Use LO (1) speed for starting holes without a center punch, drilling metals or plastic, drilling ceramics, or in applications requiring a higher torque.

HI (2) speed provides lower torque and faster speeds for lighter drilling work. HI (2) speed is better for drilling wood and wood composites.

NOTICE: To prevent gear damage, always allow the drill driver to come to a complete stop before changing between High speed and Low speed.

TWO-SPEED GEARBOX SWITCH

Your tool features 18 clutch settings. Output torque will increase as the clutch ring is rotated from 1 to 18. The drill “” position will lock the clutch to permit drilling and driving for heavy-duty work (Fig. 5).

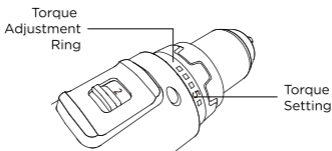


Fig. 5

When using the drill driver for different driving applications, increase or decrease the torque in order to help prevent damaging screw heads, threads, workpiece, etc.

The proper setting depends on the job and the type of bit, fastener, and material you will be using. In general, use greater torque for larger screws. If the torque is too high, the screws may be damaged or broken. For delicate operations, such as removing a partially stripped screw, use a low torque setting. For operations such as drilling into hardwood, use a higher torque setting.

⚠ CAUTION: Do not adjust the torque when the tool is running.

LED WORKLIGHT

Your tool is equipped with an LED worklight, located on the base of the tool, that illuminates when the variable-speed trigger switch is squeezed. This provides additional light on the surface of the workpiece for operation in lowerlight areas (Fig. 6).

The LED worklight will automatically turn on with a slight squeeze on the trigger switch before the tool starts running, and will turn off after the trigger is released.

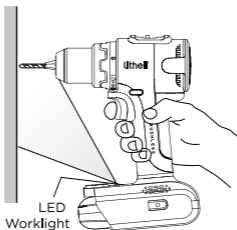



Fig. 6

INSTALL AND REMOVE BITS

⚠ WARNING: Do not use the power of the drill driver while grasping chuck to loosen or tighten the bit. Friction burn or hand injury is possible if attempting to grasp the spinning chuck.

⚠ WARNING: Do not use bits with damaged shanks.

Your tool is equipped with a keyless chuck to tighten or release drill bits in the chuck jaws. The arrows on the chuck indicate the direction in which to rotate the chuck body in order to GRIP (tighten) or OPEN (release) the chuck jaws on the drill bit.

- a. Lock the trigger switch “OFF” on the tool by placing the direction-of-rotation (forward/center-lock/reverse) selector in the center position.
- b. Remove the battery pack and rotate the torque-adjustment ring to the drill setting “”.

To install the bit:

- a. Rotate the chuck body counterclockwise, viewed from chuck end, to open the chuck to approximately the drill bit diameter.
- b. Insert a clean bit up to the drill-bit flutes for small bits, or as far as it will go for large bits. Close the chuck by rotating the chuck body clockwise and securely tighten it by hand (Fig. 7).

To remove the bit:

- a. Rotate the chuck body counterclockwise, as viewed from the chuck end, to open the chuck.
- b. Remove the bit.

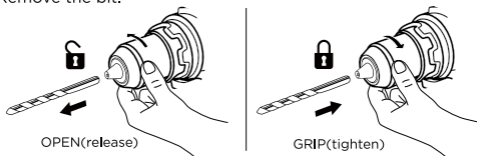


Fig. 7

⚠ WARNING: Use protective gloves when removing the bit from the tool, or first allow the bit to cool down. The bit may be hot after prolonged use.

REMOVABLE BELT CLIP

Your tool is equipped with a removable belt clip that can be positioned on the left or right side of the tool for convenient transport.

Install the belt clip onto the tool:

- a. Remove the battery pack from the tool.
- b. Align the rib of the belt clip with the threaded hole on the base of the tool.

- c. Insert the screw and securely tighten the crew with a screwdriver.

Remove the belt clip from the tool:

- d. Remove the battery pack from the tool.
- e. Use a screwdriver to loosen the screw that attaches the belt clip to the tool.
- f. Remove the screw and the belt clip.

DRILL BITS (Not Included)

Always inspect drill bits for excessive wear. Use only bits that are sharp and in good condition.

DRILLING

⚠ WARNING: Always wear safety goggles or safety glasses with side shields during power tool operation or when blowing dust. If operation is dusty, also wear a dust mask.

- a. Check that the direction-of-rotation selector is at the correct setting (forward or reverse).
- b. Secure the material to be drilled in a vise or with clamps to keep it from turning as the drill bit rotates.
- c. Hold the drill firmly and place the bit at the point to be drilled.
- d. Squeeze the trigger switch to start the drill driver.
- e. Move the drill driver bit into the workpiece, applying only enough pressure to keep the bit “biting”. Do not force the drill driver or apply side pressure to elongate a hole. Let the tool do the work.
- f. When drilling hard, smooth surfaces, use a center punch to mark the desired location of the hole. This will prevent the drill bit from slipping off-center as the hole is started.
- g. When drilling metals, use light oil on the drill bit to keep it from overheating. The oil will prolong the life of the bit and increase the drilling action.
- h. If the bit jams in the workpiece or if the drill driver stalls, stop the tool immediately. Remove the bit from the workpiece and determine the reason for jamming.

NOTICE: There are two rules for drilling hard materials. First, the harder the material, the greater the pressure you need to apply to the tool. Second, the harder the material, the slower the speed should be. If the hole to be drilled is fairly large, drill a smaller hole first, then enlarge to the required size with a larger bit; it's often faster in the long run than drilling a larger hole initially.

Wood Drilling

For maximum performance, use high-speed steel or brad-point bits for wood drilling.

- Begin drilling at a very low speed to prevent the bit from slipping off the starting point.
- Increase speed as the drill bit bites into the material.
- When drilling "through" holes, place a block of wood behind the workpiece to prevent ragged or splintered edges on the back side of the hole (Fig. 8).

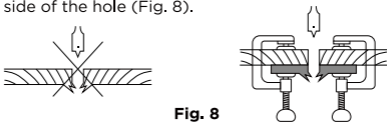


Fig. 8

NOTICE: Bits may overheat unless pulled out frequently to clear chips from the flutes.

Metal Drilling

For maximum performance, use high-speed steel bits for metal or steel drilling.

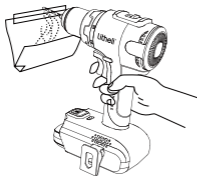
- When drilling metals, use light oil on the drill bit to keep it from overheating. The oil will prolong the life of the bit and increase the drilling action.
- Begin drilling at a very low speed to prevent the bit from slipping off the starting point.
- Maintain a speed and a pressure that allow cutting without overheating the bit. Applying too much pressure will:
 - Overheat the drill driver.
 - Wear the bearings.
 - Bend or burn bits.
 - Produce off-center or irregularly shaped holes.

Masonry Drilling

For maximum performance, use carbide-tipped masonry bits when drilling holes in brick, tile, concrete, etc.

- a. Maintain a speed and a pressure that allow cutting without overheating the bit or drill driver. Applying too much pressure will:
 - Overheat the drill driver.
 - Wear the bearings.
 - Bend or burn bits.
 - Produce off-center or irregular-shaped holes.
- b. Apply light pressure and medium speed for best results in brick.
- c. Apply additional pressure for hard materials such as concrete.
- d. When drilling holes in tile, practice on a scrap piece to determine the best speed and pressure.
- e. Begin drilling at a very low speed to prevent the bit from slipping off the starting point.

NOTICE: Fig. 9 shows some tips for different drilling operations.



Dust-free drilling in walls



Drilling in tiles without skidding

Driving Nuts and Bolts Fig. 9



WARNING:

Always wear safety goggles or safety glasses with side shields during power tool operation or when blowing dust. If operation is dusty, also wear a dust mask.

Variable-speed control must be used with caution for driving nuts and bolts with socket-set attachments. The technique is to start slowly, increasing speed as the nut or bolt runs down. Set the nut or bolt snugly by slowing the drill driver to a stop. If this procedure is not followed, the tool will have a tendency to torque or twist in your hands when the nut or bolt seats.

Maintenance

⚠ WARNING: To avoid serious personal injury, always remove the battery pack from the tool when cleaning or performing any maintenance.

SERVICE

⚠ WARNING: Preventive maintenance performed by unauthorized personnel may result in misplacing of internal wires and components which could cause serious hazard.

We recommend that all tool service be performed by a Litheli Customer Service Center.


GENERAL MAINTENANCE

⚠ WARNING: When servicing, use only identical replacement parts. Use of any other parts could create a hazard or cause product damage.

Periodically inspect the entire product for damaged, missing, or loose parts such as screws, nuts, bolts, caps, etc. Securely tighten all fasteners and caps and do not operate this product until all missing or damaged parts are replaced. Please contact Litheli Customer Service for assistance.

CHUCK REMOVAL

The chuck can be removed and replaced with a new one.

- a.** Lock the variable-speed trigger switch by placing the direction-of-rotation selector in the center position. And set the torque-adjustment ring at Drill mode . Remove the battery.

- b. Open the chuck jaws.
- c. Insert a 5/16 in. or larger hex key (not included) into the chuck of the drill driver and tighten the chuck jaws securely.
- d. Tap the hex key sharply with a mallet (not included) in a clockwise direction. This will loosen the screw in the chuck for easy removal.
- e. Open the chuck jaws and remove the hex key. Using a Philips screwdriver (not included), remove the chuck screw by turning it in a clockwise direction.

NOTICE: The chuck screw has left-handed threads.

- f. Insert the hex key into the chuck and tighten the chuck jaws securely. Tap sharply with a mallet in a counterclockwise direction. This will loosen the chuck on the spindle. It can now be unscrewed by hand.

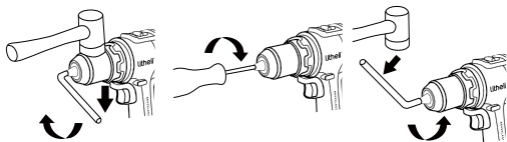


Fig. 10

TO RETIGHTEN A LOSSE CHUCK

The chuck may become loose on the spindle and develop a wobble. Also, the chuck screw may become loose, causing the chuck jaws to bind and prevent them from closing.

To tighten a loose chuck or chuck screw:

- a. Lock the variable-speed trigger switch by placing the direction-of-rotation selector in the center position. And set the torque-adjustment ring at Drill mode . Remove the battery.
- b. Open the chuck jaws.

- c.** Insert a hex key (not included) into the chuck and tighten the chuck jaws securely. Tap the hex key sharply with a mallet (not included) in a clockwise direction. This will tighten the chuck on the spindle.
- d.** Open the chuck jaws and remove the hex key.
- e.** Use a Philips screwdriver (not included) to turn the chuck screw counterclockwise to tighten it.

CLEANING THE DRILL & DRIVER

⚠ WARNING: The tool may be cleaned most effectively with compressed dry air. Always wear safety goggles when cleaning tools with compressed air. Ventilation openings and switch levers must be kept clean and free of foreign matter. Do not attempt to clean by inserting pointed objects through openings.

⚠ WARNING: Certain cleaning agents and solvents damage plastic parts. Some of these are: gasoline, carbon tetrachloride, chlorinated cleaning solvents, ammonia and household detergents that contain ammonia.

STORING THE DRILL & DRIVER

Store the tool indoors in a place that is inaccessible to children. Keep away from corrosive agents.

STORING THE BATTERY PACK

- a.** Protect the battery against moisture and water.
- b.** Store the battery only within a temperature range from 40°F to 104°F. As an example, do not leave the battery in a vehicle or in the trimmer in direct sunlight.
- c.** Clean the ventilation slots of the battery occasionally with a soft, clean and dry brush. A considerably shortened operating time after charging is an indication that the battery is exhausted and must be replaced.
- d.** If you do not use the product for a long time, please charge and discharge the battery pack once every 6 months.

Troubleshooting

Problem	Possible causes	Solution
Tool will not start.	Battery is depleted.	Charge the battery pack.
	Battery pack is not installed properly.	Confirm battery is locked and secured to the tool.
	Burned out switch.	Contact Litheli Customer Service.
LED Worklight rapidly flashes.	Tool is over-loaded.	Release the trigger switch.
	Tool is over-temperature.	Cool the tool under air flow.

Warranty

Litheli WARRANTY POLICY FOR U20 PRODUCT

- For Litheli U20 product (battery excluded) used for personal and household purposes, 3-year limited standard warranty + 2-year limited extended warranty available upon product registration;
- For Litheli U20 battery used for personal and household purposes, 3-year limited warranty;

NOTICE: Litheli offers a Warranty Extension Service for U20 product (battery excluded). Litheli U20 product (battery excluded) Warranty Extension is available only upon product registration. Register your U20 product on Litheli OFFICIAL website to activate a 2-year limited extended warranty.

Please contact Litheli customer service at service@litheli.com any time you have questions or warranty claims.

LIMITED WARRANTY SERVICE

FOR FIVE (2-year limited extended warranty included) YEARS from the date of original retail purchase, this Litheli product (battery not included) is warranted against defects in material or workmanship. Defective product will receive free repair or will be exchanged.

FOR THREE YEARS from the date of original retail purchase, the Litheli battery is warranted against defects in material or workmanship. Defective product will receive free repair or be exchanged.

1. This warranty only covers Litheli products and batteries used for residential purposes.
2. This warranty does not cover the consumables such as, but not limited to, charging cable.
3. This warranty does not cover the damage resulting from modification, alteration or unauthorized repair.
4. This warranty only covers defects arising under normal usage and does not cover any malfunction, failure or defect resulting from misuse, abuse (including overloading of the product beyond capacity and immersion in water or other liquid), accidents, neglect or lack of proper installation, and improper maintenance or storage.
5. This warranty does not cover normal deterioration of the exterior finish including but not limited to scratches, dents, paint chips, or to any corrosion or discoloring by heat, abrasive and chemical cleaners.
6. This warranty applies only to the original purchaser from an authorized Litheli shop and may not be transferred.
7. This warranty does not require Litheli to repair or replace a Litheli lithium-ion battery/ies if the battery/ies present/s shortened runtime/working hour, reduced capacity, and/or weakened performance due to normal chemical age.

PRODUCT REGISTRATION

Please register your Litheli product on Litheli OFFICIAL website. www.litheli.com

For better warranty services, we recommend that you register the product within 30 days from the date of the original retail purchase.

WARRANTY CLAIM

For warranty claims, please contact Litheli customer service. You will need to submit a registration document or proof of purchase in the form of a valid receipt that displays date and place of purchase. Replacement products do not come with a new warranty. The warranty of the products will continue from the date of the original purchase.

litheli tool

TOOLS FOR THE FUTURE



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