# C.R. LAURENCE CO., INC.

# CORDLESS ROTARY TOOL

## Instruction Manual

## CAT. NO. LD115 and LD115AU


**SAVE THIS MANUAL**
**You will need this manual for safety instructions, operating procedures, and warranty. Put it and the original sales invoice in a safe, dry place for future reference.**

**Care for the environment!**
**Tool must not be discarded with household waste!**
**This product contains electrical or electronic components that should be recycled. Leave the product for recycling at the designated station e.g. the local authority's recycling station.**

Subject to printing errors and design changes over which we have no control. In the event of problems please contact our Customer Service Department.



AVDB3077 11/12

# SAFETY INSTRUCTIONS

## ⚠ WARNING!

**Read and understand all instructions. Failure to follow all instructions listed below may result in electrical shock, fire and/or serious personal injury.**

### ⚠ WORK AREA

- Keep your work area clear, clean and well lit. Cluttered work surfaces and dark areas can cause accidents.
- Keep people not involved in the work, especially children, away from the work area while operating a power tool. Distractions can cause you to lose control of the tool.
- Do not operate tools in an unsafe environment such as an explosive atmosphere (flammable liquids, gases and dust). A spark created by a power tool may ignite the fumes or dust.

### ⚠ ELECTRICAL SAFETY

- Double insulated tools are equipped with a polarized plug (one blade is wider than the other). This plug will fit into a polarized outlet only one way. If it does not fit fully in the outlet, reverse the plug and try again. If it still does not fit fully, contact a qualified electrician to install a polarized grounded power cord and grounded electrical system.
- Avoid body contact with grounded surfaces such as radiators, pipes, ranges and refrigerators. There is an increased risk of electrical shock if your body is grounded.
- Do not operate power tools in the rain or wet conditions. Water entering a power tool increases the risk of electrical shock.
- Do not stress the power cord. Never carry the power tool by the cord or disconnect the plug from the receptacle by yanking on the cord. Keep cord away from sharp edges, heat, solvents and oil. Replace damaged cord immediately. Damaged cords increase the risk of electrical shock.
- Use outdoor extension cords when operating the power tool outside. Outdoor power cords are marked "W-A" or "W" and are rated for outdoor use. These cords reduce the risk of electrical shock.

### ⚠ PERSONAL SAFETY

- Dress appropriately. Do not wear loose clothing or jewelry. Keep long hair in place and contained. Keep clothing and gloves away from moving parts. Loose clothing, jewelry and hair can be snagged in moving parts.
- Use common sense, stay alert and watch what you are doing while operating a power tool. Do not use tools while under the influence of alcohol, medication, or drugs. Keep focused on the work at hand while using a power tool to prevent personal injury.

# SAFETY INSTRUCTIONS

- Make sure the power switch is in the "OFF" position before plugging it into the receptacle. This will prevent accidental starting. Carrying tools with your finger on the switch or plugging in the tools with the switch in the "ON" position invites accidents.
- Remove adjusting tools such as wrenches or keys before turning the tool on. A wrench or key left attached to a rotating part will fly off and may cause personal injury.
- Do not overreach while operating a power tool. Keep proper footing and balance at all times. Good balance and solid footing enables better control in unexpected situations.
- Always wear appropriate safety equipment. Always wear eye protection while operating a power tool. Use appropriate dust respirator, hearing protection, hard-hat, face shield or safety shoes as dictated by the work.

## ⚠ TOOL USE AND CARE

- Secure the work piece with clamps or other practical methods to provide a secure work platform. Holding the work by hand or against your body is not secure and may lead to loss of control.
- Use the correct tool for the work. The proper tool will do the work faster and safer.
- Do not use the tool if the "ON/OFF" switch is not working. Operating a tool that cannot be controlled by you is dangerous and must be repaired before use.
- Always disconnect the power cord from the electrical outlet before storing the tool, making adjustments or adding/replacing accessories. This simple prevention will reduce the risk of accidental starting of the tool.
- Store the tool in a secure place out of the reach of children. A secure storage location will prevent the unauthorized use by untrained users.
- Properly maintain tools. Keep all cutting tools sharp and clean. Remove contaminants from the tool and keep clean. Check for broken parts or binding of moving parts before use. If damaged, have the tool serviced before use. Prevent accidents caused by poorly maintained tools.
- Use only accessories recommended for your model. Accessories suitable for one tool may be hazardous when used on another tool.

## ⚠ SERVICE

- Tool service, mechanical and/or electrical, is to be performed only by qualified repair personnel. Service performed by unqualified personnel may result in a risk of injury.
- When servicing a tool, use only identical replacement parts. Use of unauthorized parts or failure to follow maintenance instructions may create a risk of electrical shock or injury.

# SAFETY INSTRUCTIONS

**Safety Instructions for Battery Charger**

- Before using charger, read all instructions and cautionary markings on (1) charger, (2) battery pack, and (3) product using battery pack.
- DANGER: 120 volts present at charging terminal. Do not probe with conductive objects. Danger of electrical shock or electrocution.
- DANGER: If battery case is cracked or damaged, do not insert into charger. Danger of electric shock or electrocution.
- The charger and battery pack are designed to work together. Do not attempt to charge the battery pack with any other charger.
- Do not expose charger to rain, sleet or snow. Do not allow any liquid to get inside of charger. Electric shock may result.
- Do not immerse charger in water or any other liquid.
- Pull the plug from the power outlet rather than yanking on the cord. This will reduce the risk of damage to the electrical plug and cord.
- Do not operate charger with damaged cord or plug; have them replaced by an authorized repair shop before using.
- Do not operate charger if it has been dropped, received a sharp blow or is damaged in any way. Have the unit checked by an authorized repair center.
- Do not block ventilation vents located on top of the charger by placing an object on the vents. Do not place the charger on a soft surface that may block the ventilation vents located on the bottom of the unit. Place the charger away from any heat source.
- Unplug the charger before attempting any cleaning. This will reduce the risk of electrical shock.
- The charger operates on standard household current (120 Volts). Do not attempt to use it on any other voltage.

**Safety Instructions for Battery Packs**

The battery pack is not fully charged out of the carton. First read the safety instructions below. then follow charging procedure:

- Do not incinerate the battery pack even if it severely damaged or no longer holds a charge. The battery pack can explode in a fire.
- Under severe conditions, a small leakage of liquid from the battery pack is normal. This does not indicate a failure. However, if the case is cracked or the seal is broken and this leakage gets on your skin:
    a. Wash quickly with soap and water
    b. Neutralize with a mild acid such as lemon juice or vinegar.
    c. If battery liquid gets into your eyes, flush them for a minimum of 10 minutes and seek immediate medical attention. Medical Note: The liquid is a 25-35% solution of potassium hydroxide.

# SAFETY INSTRUCTIONS

- Never attempt to open the battery pack for any reason. If the plastic housing of the battery pack breaks or cracks, immediately stop using it and do not attempt to recharge.
- NOTE: The batteries in the battery pack are nickel-cadmium type. Cadmium is considered to be a toxic material by the Environmental Protection Agency. Do not discard the batteries in any manner. Exchange old battery packs for recycling when purchasing new ones.
- Use only battery packs produced by the original manufacturer.

**Safety Instructions for Rotary Tool**

- The Cordless Rotary Tool is a high speed power tool. It serves as a carver, grinder, polisher, sander, cutter, power brush, drill and more.
- Your Cordless Rotary Tool has a small, powerful electric motor, is comfortable in the hand, and is made to accept a large variety of accessories including abrasive wheels, drill bits, wire brushes, polishers, engraving cutters, router bits, and cutting wheels. Accessories come in a variety of shapes and permit you to do a number of different jobs. As you become familiar with the range of accessories and their uses, you will learn just how versatile your Cordless Rotary Tool is. You'll see dozens of uses you hadn't thought of before now.
- The real secret of the Cordless Rotary Tool is its speed. To understand the advantages of its high speed, you have to know that the standard portable electric drill runs at speeds up to 2,800 revolutions per minute. The typical electric drill is a low-speed, high torque tool; the Cordless Rotary Tool is just the opposite- a high speed, low torque tool. The chief difference to the user is that in the high-speed tools, the speed combined with the accessory mounted in the collet does the work. You don't apply pressure to the tool, but simply hold and guide it. In the low speed tools, you not only guide the tool, but also apply pressure to it, as you do, for example, when drilling a hole.
- It is this high speed, along with its compact size and wide variety of special accessories and attachments that makes your Cordless Rotary Tool different from other power tools. The speed enables it to do jobs low speed tools cannot do, such as cutting hardened steel, engraving glass, etc. Getting the most out of your Cordless Rotary Tool is a matter of learning how to let this speed work for you.

# CHARGING PROCEDURE/ INSTALLATION REMOVAL

The charger is ready to use without adjustment and is easy to operate.

- Plug the charger into an appropriate 120 Volt/240 Volt outlet.
- Carefully insert the battery pack into the charging base. Insert charged battery in the handle and secure with release button. Make sure the battery pack is fully seated in the charger.
- The red indicator light will come on indicating the charging process has started
- Normal charging takes about 3 hours.
- Before removing battery unplug the charger. To remove battery press the release buttons located below the drill handle and gently pull the battery pack out of the charger and insert into the rotary tool.


⚠ **Caution**:

- The battery pack must be charged before the first use.
- The battery pack reaches its full capacity only after several recharges.
- Do not recharge battery pack after using the tool briefly, such as 15 minutes. Allow the battery pack to drain down somewhat before recharging.
- During charging, the battery pack and charger may feel warm to the touch. This is normal.
- Do not charge the battery pack in an air temperature below 40°F or above 105°F. This is critical and will prevent serious damage to the battery pack. Best performance is obtained if the battery is charged when the air temperature is between 65°F and 75°F.
- To prolong battery life, avoid leaving the battery on charge longer than 24 hours. Overcharging is not a safety concern, but it can reduce the life span of the battery.
- In extremely warm environment or after heavy use, the battery may be too hot to permit charging. Allow time for the battery pack to cool before charging.

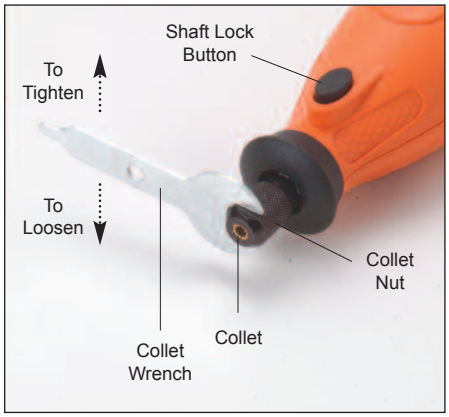
**Technical Specifications:**

- Power Source: 7.2 Volt, 600mAH Nickel-Cadium Batteries
- Speed: 8000/16000 RPM
- Collet Capacity: 3/32", 1/8"
- Charging Time: 3 hours
- Charger Input: 120V-60Hz/220V-50Hz

# OPERATING THE CORDLESS ROTARY TOOL

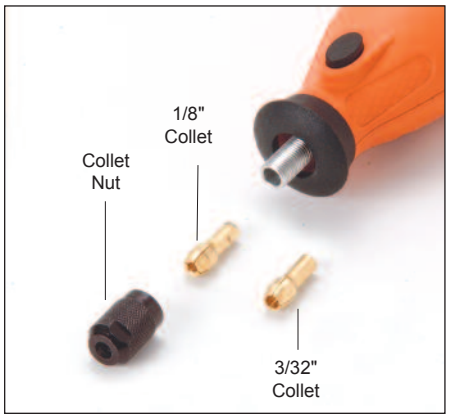
**⚠ WARNING! Disconnect battery pack from tool or place the switch in the locked or "OFF" position before making any assembly, adjustments or changing accessories. Such preventive safety measures reduce the risk of starting the tool accidently.**

**⚠ WARNING! Always be sure the tool is in the "OFF" position before changing accessories, changing collets or servicing your cordless rotary tool.**




**Collet Installation and Removal:**

To loosen, first press shaft lock button and rotate the shaft by hand until the lock engages the shaft preventing further rotation. With the shaft lock engaged use the collet wrench to loosen the collet nut if necessary. Change accessories by inserting the new one into the collet as far as possible to minimize run out and unbalance. With the shaft lock engaged, finger tighten the collet nut until the accessory shank is gripped by the collet. Avoid excessive tightening of the collet nut. Caution: Do not engage lock while the Cordless Rotary Tool is running.




**Collet Size Identification:**

Two different size collets (see illustration), to accommodate different shank sizes, are available for your Cordless Rotary Tool. The 3/32" Collet has three (3) rings. The 1/8" Collet has no rings.

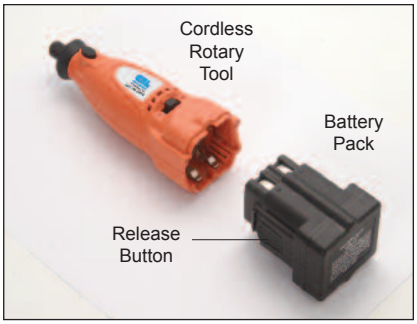
To install a different collet, remove the collet nut and remove the old collet. Insert the unslotted end of the collet in the hole in the end of the tool shaft. Replace collet nut on the shaft. Always use the collet which matches the shank size of the accessory you plan to use. Never force a larger diameter shank into a collet.

**Balancing Accessories:**

For precision work, it is important that all accessories be in good balance (much the same as the tires on your automobile). To true up or balance an accessory, slightly loosen collet nut and give the accessory or collet a 1/4 turn. Retighten collet nut and run the tool. You should be able to tell by the sound and feel if your accessory is running in balance. Continue adjusting in this fashion until best balance is achieved. To maintain balance on abrasive wheel points, follow these instructions before each use: With the wheel point secured in the collet, turn on the Cordless Rotary Tool and run the 415 Dressing Stone lightly against the revolving wheel point. This removes high spots and turns up the wheel point to ensure good balance.

# OPERATING THE CORDLESS ROTARY TOOL

### Battery Pack Installation/Removal




- To install battery pack, insert charged battery pack in the handle and secure with release button
- To remove battery pack, press the release buttons located below the drill handle and gently pull the battery pack out.

### Using the Cordless Rotary Tool

- The first step in learning to use the Cordless Rotary Tool is to get the "feel" of it. Hold it in your hand and feel its weight and balance. Feel the taper of the housing. This taper permits the tool to be grasped much like a pen or pencil.
- When you turn on the tool for the first time, hold it away from your face. Accessories can be damaged during handling, and can fly apart as they come up to speed. This is not common, but it does happen.
- Practice on scrap materials first to see how the Cordless Rotary Tool cuts. Keep in mind that the work is done by the speed of the tool and by the accessory in the collet. You should not lean on or push the tool into the work.
- Instead, lower the spinning accessory lightly to the work and allow it to touch the area you want to cut (or sand or etch, etc). Concentrate on guiding the tool over the work using very little pressure from your hand. Allow the accessory to do the work.
- Usually, it is best to make a series of passes with the tool rather than attempt to do all the work in one pass. To make a cut, for example, pass the tool back and forth over the work.
- Cut a little material on each pass until you reach the desired depth. For most work, a deft, gentle touch is best. With it you have the best control, are less likely to make errors, and will get the most efficient work out of the accessory.

### Operating Speeds for Accessories


- Set the speed indicator to fit the job to achieve the best job results when working with different materials.
- To select the right speed for each job, use a practice piece of material. Vary speed to find the best speed for the accessory you are using and the job to be done.
- On the tool, there is LO and HI switch. When the switch indicator is in position LO, the tool runs at about 8,000 RPM. When the switch indicator is in position HI, the tool runs at about 16,000 RPM.

# OPERATING THE CORDLESS ROTARY TOOL

- Certain materials, however, (some plastics, for example) require a relatively low speed because at high speed the friction of the tool generates heat and causes the plastic to melt. Most work is done at high speed on your Cordless Rotary Tool. Lower speeds are needed only for certain tasks.
- Ultimately, the best way to determine the correct speed for work on any material is to practice for a few minutes on a piece of scrap. You can quickly learn that a slower or faster speed is more effective just by observing what happens as you make a pass or two at different speeds. When working with plastic, for example, start at a slow rate of speed and increase the speed until you observe that the plastic is melting at the point of contact, then reduce the speed slightly to get the optimum working speed.

Some guidelines in regard to speed:

1. Plastic and materials that melt at low temperatures should be cut at low speeds.
2. Polishing, buffing and cleaning with a wire brush must be done at speeds below 15,000 RPM to prevent damage to the brush.
3. Wood should be cut at high speed.
4. Iron or steel should be cut at top speed if using a tungsten carbide accessory, but at lower speeds if using high-speed steel cutters. If a high-speed steel cutter starts to chatter this normally means it is running too slow.

Aluminum, copper alloys, lead alloys, zinc alloys and tin may be cut at various speeds, depending on the type of cutting being done. Use paraffin or other suitable lubricant on the cutter to prevent the cut material from adhering to the cutter teeth.

Increasing the pressure on the tool is not the answer when it is not cutting as you think it should. Perhaps you should be using a different cutter, and perhaps an adjustment in speed would solve the problem. But leaning on the tool seldom helps.

# MAINTENANCE SERVICE

The tool is designed for maintenance-free operation. However, as with all other electrical grinders, certain care should be followed before and after each use:

- Wipe off any dust or debris from motor housing, tool bits, battery pack, and battery charger.
- Visually check for damages in motor housing, cord, tool bits, and any other accessories.

**WARNING**:

The tool has **NO USER SERVICEABLE PARTS INSIDE**. Preventive maintenance performed by unauthorized personnel may result in misplacing of internal wires and components, which would cause a serious hazard. Disconnect tool and/or charger from power source before servicing. 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.

**CAUTION**:

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.