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RYOBI PCL500B

RYOBI 18V ONE+ Cordless 5-1/2 Inch Circular Saw (Model PCL500B) Instruction Manual

Your guide to safe and effective operation.

1. INTRODUCTION

This instruction manual provides essential information for the safe assembly, operation, maintenance, and troubleshooting of your RYOBI 18V ONE+ Cordless 5-1/2 Inch Circular Saw, Model PCL500B. Please read this manual thoroughly before using the tool to ensure proper function and to prevent injury.

The RYOBI 18V ONE+ Circular Saw is designed for cutting wood and wood products. It is part of the RYOBI ONE+ System, which utilizes a common 18V battery platform (battery and charger sold separately).



Figure 1.1: The RYOBI 18V ONE+ 5-1/2 Inch Circular Saw. This image displays the main unit of the circular saw, featuring its distinctive green and gray color scheme, the blade guard, and the handle. The 5-1/2 inch blade is visible within the guard.

BATTERY & CHARGER SOLD SEPARATELY

Figure 1.2: Important Notice: Battery and Charger Sold Separately. This image clearly states that the battery and charger required to operate the circular saw are not included with the tool and must be purchased separately.

2. GENERAL SAFETY INSTRUCTIONS

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.

2.1 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.

2.2 Electrical Safety

- Power tool plugs must match the outlet. Never modify the plug in any way.
- 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.

2.3 Personal Safety

- Always wear eye protection. Use appropriate personal protective equipment such as dust masks, non-skid safety shoes, hard hats, or hearing protection for relevant conditions.
- Prevent unintentional starting. Ensure the switch is in the off-position before connecting to battery pack, picking up or carrying the tool.
- Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.

3. PRODUCT COMPONENTS

Familiarize yourself with the various parts of your circular saw before operation.



Figure 3.1: Front view of the circular saw. This image shows the front of the saw, highlighting the main handle, auxiliary handle, blade guard, and the saw base plate. Key operational controls are visible.



Figure 3.2: Rear view of the circular saw. This image displays the rear of the tool, including the battery receptacle for the 18V ONE+ battery, and the model number label (PCL500B).





Figure 3.3: Top view of the saw's handle. This image focuses on the ergonomic design of the main handle, showing the trigger and safety lock-off button for operation.

4. SETUP AND ASSEMBLY

4.1 Blade Installation

The circular saw uses a 5-1/2 inch blade. Ensure the blade is an 18T Carbide Tipped Blade for optimal performance with wood materials.

1. Ensure the battery pack is removed from the tool before attempting any assembly or adjustments.
2. Locate the blade wrench, typically stored on the tool itself.
3. Press and hold the spindle lock button.
4. Using the blade wrench, loosen the arbor nut by turning it in the direction indicated on the saw (usually clockwise for standard saws, but check markings).
5. Remove the outer blade washer and the old blade.
6. Clean any sawdust or debris from the blade flanges.

7. Place the new 5-1/2 inch blade onto the arbor, ensuring the teeth are pointing in the direction of rotation indicated by the arrow on the blade guard.
8. Replace the outer blade washer and tighten the arbor nut firmly with the blade wrench while holding the spindle lock button. Do not overtighten.



Figure 4.1: Circular saw with blade removed, showing the arbor and blade details. This image highlights the 5-1/2 inch, 18-tooth carbide-tipped blade and the arbor mechanism where the blade is mounted.

4.2 Battery Installation

This tool is part of the RYOBI 18V ONE+ System. Only use RYOBI 18V ONE+ batteries with this tool.

1. Align the ribs on the battery pack with the grooves in the tool's battery port.
2. Slide the battery pack into the tool until it latches securely in place.
3. To remove, press the latch button on the battery pack and pull it out.

5. OPERATING INSTRUCTIONS

5.1 Adjusting Depth of Cut

The depth of cut can be adjusted to match the thickness of your material. This saw offers a maximum depth of cut of 1-11/16 inches at 90 degrees.

1. Loosen the depth adjustment lever.
2. Raise or lower the saw base to the desired depth.

3. Align the depth indicator with the desired measurement on the scale.
4. Tighten the depth adjustment lever securely.

5.2 Adjusting Bevel Angle

The saw can make bevel cuts up to 50 degrees. The depth of cut at a 45-degree bevel is 1-3/16 inches.

1. Loosen the bevel adjustment knob/lever.
2. Tilt the saw base to the desired angle.
3. Align the bevel indicator with the desired angle on the scale.
4. Tighten the bevel adjustment knob/lever securely.



Figure 5.1: Side view of the circular saw demonstrating bevel adjustment. This image shows the saw tilted, highlighting the bevel scale and the adjustment mechanism for setting the cutting angle.

5.3 Making a Cut

Always ensure the workpiece is securely clamped before cutting.

1. Ensure the blade is sharp and appropriate for the material.
2. Position the saw with the front of the base plate resting on the workpiece.
3. Depress the safety lock-off button, then squeeze the trigger to start the saw. Allow the blade to reach full speed (4700 RPM) before entering the material.
4. Guide the saw smoothly through the material, maintaining a consistent speed. Do not force the saw.
5. Once the cut is complete, release the trigger and allow the blade to stop completely before lifting the saw from the workpiece.

5.4 Dust Management

For cleaner operation, an accessory vacuum dust adaptor (sold separately) can be connected to your wet/dry vacuum.

6. MAINTENANCE

6.1 General Cleaning

- Always remove the battery pack before performing any maintenance.
- Use a clean, dry cloth to wipe down the exterior of the tool.
- Periodically blow compressed air through the motor vents to clear dust and debris.
- Keep the blade guard clean and free of obstructions to ensure proper operation.

6.2 Blade Care

- Inspect the blade regularly for sharpness, cracks, or missing teeth. Replace damaged blades immediately.
- Clean resin and pitch buildup from the blade using a non-caustic blade cleaner.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Saw does not start	Battery not installed correctly or discharged; Safety lock-off not engaged.	Ensure battery is fully charged and properly seated. Press safety lock-off before trigger.
Blade binds or cuts slowly	Dull or dirty blade; Incorrect blade for material; Improper cutting technique.	Replace or clean blade. Use appropriate blade. Ensure workpiece is supported and saw is guided smoothly.
Excessive vibration	Damaged or improperly installed blade; Loose components.	Inspect blade for damage and ensure it is installed correctly and arbor nut is tight. Check for loose screws.

8. SPECIFICATIONS

Feature	Detail
Model Number	PCL500B
Brand	RYOBI
Power Source	18V Battery Powered (RYOBI ONE+ System)
Blade Diameter	5-1/2 inches (140 mm)
No Load Speed	4700 RPM
Max Depth of Cut (90°)	1-11/16 inches
Max Depth of Cut (45°)	1-3/16 inches
Bevel Capacity	0-50 degrees
Blade Material	Carbide (18 Teeth recommended)
Item Weight	4.7 pounds
Product Dimensions	5.5"L x 1.68"W x 1.19"H (Tool only)

9. WARRANTY AND SUPPORT

9.1 Manufacturer's Warranty

This RYOBI 18V ONE+ Cordless 5-1/2 Inch Circular Saw is backed by a RYOBI 3-Year Manufacturer's Limited Warranty. For specific terms and conditions, please refer to the warranty documentation included with your product or visit the official RYOBI website.

9.2 Customer Support

For technical assistance, replacement parts, or warranty claims, please contact RYOBI customer support. Contact information can typically be found on the RYOBI official website or on the product packaging.

Manufacturer: RYOBI

Website: www.ryobitools.com (This is a general link, specific support links may vary by region.)