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DEWALT DCS397N-XJ

DeWalt DCS397N-XJ XR Flexvolt 54V Brushless Alligator Saw User Manual

Model: DCS397N-XJ

1. Introduction

This manual provides essential information for the safe and effective operation, maintenance, and troubleshooting of your DeWalt DCS397N-XJ XR Flexvolt 54V Brushless Alligator Saw. Please read this manual thoroughly before using the tool and keep it for future reference.

The DeWalt DCS397N-XJ is a powerful cordless alligator saw designed for demanding cutting applications, particularly in aerated concrete and drywall. Its 54V FLEXVOLT Li-ion battery system (battery and charger sold separately) delivers performance comparable to corded tools. The brushless motor ensures extended runtime and durability. The unique dual-blade system, operating in opposite directions, minimizes material movement during cuts, enhancing precision and safety.



Figure 1: The DeWalt DCS397N-XJ XR Flexvolt 54V Brushless Alligator Saw, showcasing its long blade and ergonomic handles. This model is yellow and black.

2. General Safety Instructions

Always follow basic safety precautions when using power tools to reduce the risk of fire, electric shock, and personal injury. Keep this information accessible to all users.

2.1 Work Area Safety

- Keep the 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 safety glasses, goggles, or a face shield.
- Wear appropriate personal protective equipment (PPE) such as dust masks, non-skid safety shoes, hard hats, or hearing protection when necessary.
- 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.
- Prevent unintentional starting. Ensure the switch is in the off-position before connecting to battery pack, picking up or carrying the tool.

3. Setup

Proper setup ensures safe and efficient operation of your alligator saw.

3.1 Battery Installation and Removal

The DeWalt DCS397N-XJ operates on a 54V FLEXVOLT Li-ion battery (not included). Ensure the battery is fully charged before use.

1. To install the battery: Align the battery pack with the receptacle in the tool's handle. Slide the battery pack into the tool until it clicks securely into place.
2. To remove the battery: Press the battery release button (usually located on the battery pack itself) and slide the battery out of the tool.



Figure 2: Side view of the DeWalt Alligator Saw, illustrating the battery compartment location at the rear handle. The battery is not

shown in this image.

3.2 Blade Installation and Replacement

The alligator saw uses two reciprocating blades. Always ensure the tool is switched off and the battery is removed before changing blades.

1. **Blade Removal:** Locate the blade release mechanism (refer to tool diagram). Follow the instructions to disengage and carefully remove the old blades.
2. **Blade Installation:** Insert the new blades into their respective slots, ensuring they are correctly oriented and seated. Engage the blade locking mechanism until you hear a click, indicating they are secure. Gently pull on the blades to confirm they are locked in place.



Figure 3: Close-up view of the DeWalt Alligator Saw's blade assembly, showing the dual reciprocating blades and the protective guard. This view is crucial for understanding blade installation.

4. Operating Instructions

Familiarize yourself with the tool's controls and proper cutting techniques.

4.1 Starting and Stopping the Tool

- **To Start:** Ensure the safety lock-off switch is disengaged. Press the trigger switch to activate the saw. The tool will begin reciprocating.
- **To Stop:** Release the trigger switch. The blade brake will engage, stopping the blades rapidly (within 0.2 seconds). Engage the safety lock-off switch when not actively cutting.



Figure 4: View of the rear handle of the DeWalt Alligator Saw, highlighting the trigger switch and the safety lock-off mechanism. Proper hand placement for operation is also visible.

4.2 Cutting Techniques

The DeWalt DCS397N-XJ is optimized for cutting aerated concrete and drywall. Always secure your workpiece before cutting.

- **General Cutting:** Hold the tool firmly with both hands. Allow the blades to reach full speed before engaging

the material. Apply steady, even pressure. Do not force the tool; let the blades do the work.

- **Cutting Aerated Concrete:** Position the saw so the blades fully encompass the material thickness if possible. The dual reciprocating action helps prevent chipping and provides a clean cut.
- **Cutting Drywall:** For precise cuts, mark your line clearly. The saw's design allows for efficient and controlled cutting through drywall panels.

5. Maintenance

Regular maintenance extends the life of your tool and ensures safe operation.

5.1 Cleaning

- After each use, clean the tool with a soft cloth. Remove any dust or debris from the ventilation openings.
- The gearbox and bearings are sealed against dust, but it is important to keep the exterior clean to prevent buildup that could impede moving parts.

5.2 Blade Care

- Inspect blades regularly for wear, damage, or dullness. Dull blades can lead to inefficient cutting and increased strain on the tool.
- Replace worn or damaged blades promptly. Always use genuine DeWalt replacement blades designed for this model.



Figure 5: An X-ray style view of the DeWalt Alligator Saw, revealing its internal brushless motor and gearbox assembly. This image helps in understanding the tool's robust construction and sealed components.

6. Troubleshooting

This section addresses common issues you might encounter with your DeWalt Alligator Saw.

Problem	Possible Cause	Solution
Tool does not start.	Battery not installed correctly or discharged. Safety lock-off engaged.	Ensure battery is fully charged and properly seated. Disengage safety lock-off switch.
Poor cutting performance.	Dull or damaged blades. Incorrect blade type for material.	Inspect and replace blades if necessary. Ensure correct blades are used for the material being cut.
Excessive vibration.	Loose blades. Damaged internal components.	Check blade installation and ensure they are secure. If problem persists, discontinue use and contact customer support.

7. Specifications

Key technical specifications for the DeWalt DCS397N-XJ Alligator Saw:

- **Model:** DCS397N-XJ
- **Brand:** DEWALT
- **Battery Type:** Li-ion (FLEXVOLT 54V)
- **Voltage:** 54 V
- **No-Load Strokes:** 2400 spm (strokes per minute)
- **Blade Stroke Length:** 40 mm
- **Blade Length:** 43.0 cm (430mm)
- **Blade Brake:** 0.2 seconds
- **Vibration Level (Hand/Arm):** 4.1 m/s^2
- **Sound Pressure:** 95 dBA
- **Sound Power:** 104 dBA
- **Weight:** 5.6 kg (without battery)
- **Dimensions (L x W x H):** 104 x 24.3 x 21.1 cm
- **Power Source:** Battery Powered
- **Special Feature:** Cordless, Brushless Motor

8. Warranty and Support

Your DeWalt DCS397N-XJ Alligator Saw comes with a manufacturer's warranty.

- **Manufacturer's Warranty:** 2 years. Please retain your proof of purchase for warranty claims.
- For technical assistance, service, or to inquire about replacement parts, please contact your authorized DeWalt service center or visit the official DeWalt website.

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