

DEWALT DCG412B

DEWALT 20V MAX 4-1/2 Inch Cordless Angle Grinder (DCG412B)

Instruction Manual

1. INTRODUCTION

This manual provides essential information for the safe and effective operation, maintenance, and troubleshooting of your DEWALT 20V MAX* Lithium Ion 4-1/2-inch / 5-inch Cordless Angle Grinder, model DCG412B. This tool is designed to increase productivity with features like Quick-Change wheel release, a convenient trigger switch with lock-off button, and extended run-time capabilities when paired with compatible DEWALT 20V MAX* batteries (sold separately).

Please read this manual thoroughly before initial use and retain it for future reference. Adherence to these instructions will help ensure safe operation and prolong the life of your tool.



Figure 1.1: DEWALT DCG412B Cordless Angle Grinder. This image shows the main unit of the grinder, highlighting its compact design and ergonomic handle. The tool is yellow and black, characteristic of DEWALT products, and includes the side handle and wheel guard.

2. IMPORTANT SAFETY INFORMATION

Always observe basic safety precautions to reduce the risk of fire, electric shock, and personal injury when operating power tools. Keep this manual for future reference.

General Power Tool Safety Warnings:

- **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.
- **Electrical Safety:** Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.
- **Personal Safety:** Always wear eye protection. Use safety glasses or goggles. Wear hearing protection when operating the tool for extended periods. Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts.
- **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. Disconnect the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.
- **Battery Tool Use and Care:** 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. Use power tools only with specifically designated battery packs. Use of any other battery packs may create a risk of injury and fire.

Proposition 65 Warning: This product can expose you to chemicals including lead, which is 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.

3. COMPONENTS AND INCLUDED ITEMS

Familiarize yourself with the parts of your DEWALT DCG412B Angle Grinder to ensure proper and safe operation.



Figure 3.1: Key Features of the DCG412B. This diagram highlights the main functional components of the grinder, including the Quick-Change Wheel Release for easy accessory changes, the 2-Position Side Handle for improved control, the 2-Finger Trigger for comfortable operation, and indicates the powerful 8,000 RPM (No Load) motor.

Standard Included Items:

The DCG412B is sold as a bare tool. The following items are typically included with the bare tool:

- DCG412 20V MAX* 4-1/2 in. / 5 in. Grinder (Bare Tool)
- Hex Wrench
- Type 27 Guard
- 2-Position Side Handle

- (1) DW4543 5x1/4 in. T27 Metal Grinding Wheel (may vary by package)

INCLUDES

TOOL - DCG412B

(1) DCG412 20V MAX* 4-1/2 IN. / 5 IN. GRINDER, (1) HEX WRENCH, (1) TYPE 27 GUARD, (1) 2-POSITION SIDE HANDLE, (1) DW4543 5x1/4 IN. T27 METAL GRINDING WHEEL



***Maximum initial battery voltage (measured without a workload) is 20 volts. Nominal voltage is 18 volts.**

Figure 3.2: Included Items. This image displays the DEWALT DCG412B grinder alongside the accessories that typically come with the bare tool, such as the hex wrench, Type 27 guard, 2-position side handle, and a metal grinding wheel, illustrating what users can expect in the package.

4. SETUP AND ASSEMBLY

4.1 Battery Installation and Removal

The DCG412B is a bare tool and requires a DEWALT 20V MAX* Lithium Ion battery pack (sold separately) for operation.

- **To Install:** Align the battery pack with the receptacle on the tool's handle. Slide the battery pack into the tool until it latches securely in place.
- **To Remove:** Press the battery release button (usually located on the front of the battery pack) and pull the battery pack out of the tool's handle.

4.2 Attaching the Side Handle

The 2-position side handle provides improved control and comfort during operation.

- Screw the side handle into either of the two threaded holes located on the gear case of the grinder. Tighten securely by hand.

4.3 Adjusting the Guard

The tool-free guard allows for quick and easy adjustments to position the guard for optimal protection during various applications.

- To adjust the guard, lift the guard release lever. Rotate the guard to the desired position. Release the lever to lock the guard in place. Ensure the guard is securely locked before operation.



TOOL-FREE GUARD

PROVIDES QUICK ADJUSTMENTS

Figure 4.1: Tool-Free Guard Adjustment. This image provides a close-up view of a hand manipulating the guard on the DEWALT angle grinder, demonstrating the ease of the tool-free adjustment mechanism for quick and secure positioning.

4.4 Installing and Removing Grinding/Cutting Wheels

The Quick-Change Wheel Release feature allows for tool-free wheel removal.

- **To Install:** Ensure the tool is off and the battery is removed. Place the inner flange onto the spindle. Position the grinding or cutting wheel onto the spindle, ensuring it sits flush against the inner flange. Thread the outer flange (or Quick-Change nut) onto the spindle and tighten securely. For standard wheels, use the provided hex wrench to tighten the outer flange. For Quick-Change wheels, simply hand-tighten the Quick-Change nut.
- **To Remove:** For Quick-Change wheels, press the Quick-Change wheel release button and unscrew the outer flange. For standard wheels, use the hex wrench to loosen the outer flange. Remove the outer flange and the wheel.

5. OPERATING INSTRUCTIONS

5.1 Powering On/Off

The DCG412B features a 2-finger trigger switch with a lock-off button for convenient activation.

- **To Turn On:** Depress the lock-off button (if present) and then squeeze the trigger switch.
- **To Turn Off:** Release the trigger switch.

5.2 General Operation Guidelines

- Ensure the work piece is securely clamped or held.
- Allow the grinder to reach full speed (8,000 RPM no-load) before making contact with the work piece.
- Apply light, consistent pressure. Do not force the tool.
- Maintain a firm grip on the tool with both hands, utilizing the side handle.
- Always direct sparks away from yourself and others.



Figure 5.1: Overhead Cutting Application. This image shows a worker safely operating the DEWALT angle grinder to cut metal piping in an overhead position, demonstrating the tool's versatility and the importance of proper safety gear like glasses and gloves.

5.3 Applications

The DEWALT DCG412B is suitable for various cutting and grinding applications on materials such as metal, concrete, and masonry, depending on the installed accessory.

- **Cutting:** Use appropriate cutting wheels for metal or masonry. Ensure the guard is positioned to deflect debris away from the operator.
- **Grinding:** Use grinding wheels for material removal, deburring, and shaping.
- **Wire Brushing:** Attach wire cup brushes or wire wheels for surface cleaning, rust removal, and paint stripping.



Figure 5.2: Rebar Cutting Application. This image captures a worker using the DEWALT angle grinder to cut through rebar, illustrating the tool's capability for heavy-duty cutting tasks and the visible sparks generated during operation, emphasizing the need for safety precautions.



Figure 5.3: Metal Grinding Application. This image shows a worker performing grinding work on a metal pipe attached to a railing, demonstrating the precision and control offered by the DEWALT angle grinder for finishing or shaping metal surfaces.

6. MAINTENANCE

Regular maintenance ensures optimal performance and extends the life of your tool. Always disconnect the battery pack before performing any maintenance.

6.1 Cleaning

- Periodically blow dirt and dust out of the main housing with dry air as dust accumulation can cause overheating and damage.
- Clean the ventilation slots regularly to prevent motor overheating.
- Wipe the exterior of the tool with a soft, damp cloth. Do not use harsh chemicals or abrasive cleaners.

6.2 Accessory Replacement

Replace grinding/cutting wheels and other accessories when they become worn, damaged, or no longer perform effectively. Refer to Section 4.4 for installation/removal instructions.

6.3 Storage

- Store the tool in a clean, dry place, out of reach of children.
- Remove the battery pack from the tool before storage, especially for extended periods.

7. TROUBLESHOOTING

This section addresses common issues you might encounter with your DEWALT DCG412B Angle Grinder. For problems not listed here, contact DEWALT customer service.

Problem	Possible Cause	Solution
Tool does not start.	Battery pack not inserted correctly or discharged.	Ensure battery pack is fully seated. Recharge battery pack.
Reduced power or speed.	Battery pack low on charge or tool overheating.	Recharge battery pack. Allow tool to cool down. Clean ventilation slots.
Excessive vibration.	Accessory not properly installed or damaged.	Check accessory installation. Replace damaged accessory.
Sparks from motor housing.	Normal operation for brushed motors, or excessive carbon dust.	This is normal for brushed motors. If excessive, clean tool ventilation.

8. SPECIFICATIONS

Feature	Detail
Brand	DEWALT
Model Number	DCG412B
Power Source	Battery Powered (20V MAX* Lithium Ion)
Voltage	20 Volts
Maximum Rotational Speed	8,000 RPM (No Load)
Accessory Connection Type	5/8" Arbor
Product Dimensions (L x W x H)	16.75" x 7.32" x 4.75"
Item Weight	4.69 pounds
Special Features	Quick-Change Wheel Release, Tool-Free Guard, 2-Position Side Handle

*Maximum initial battery voltage (measured without a workload) is 20 volts. Nominal voltage is 18 volts.

9. WARRANTY AND SUPPORT

9.1 Warranty Information

Your DEWALT DCG412B Cordless Angle Grinder is covered by a **3 Year Limited Warranty**. This warranty covers defects in material or workmanship for three years from the date of purchase. For full warranty terms and conditions, please refer to the warranty card included with your product or visit the official DEWALT website.

9.2 Customer Support

For technical assistance, service, or to locate an authorized service center, please contact DEWALT customer service or visit their official website. Always have your model number (DCG412B) and serial number ready when contacting support.

Official DEWALT Website: www.dewalt.com

