

MINIXTEC 20V Electric Drill

MINIXTEC USPECIAL 20V Cordless Brushless Drill Set Instruction Manual

Model: 20V Electric Drill

1. IMPORTANT SAFETY INSTRUCTIONS

Always observe basic safety precautions when using electric tools to reduce the risk of fire, electric shock, and personal injury. Read all instructions before operating this product.

- **Work Area Safety:** Keep your 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.
- **Electrical Safety:** Avoid body contact with earthed or grounded surfaces. 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, goggles, or a face shield. Wear hearing protection when operating for extended periods. Dress properly; do not wear loose clothing or jewelry. Keep 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. Disconnect the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.
- **Battery Pack Use and Care:** Recharge only with the charger specified by the manufacturer. Do not use battery packs with any other power tools. When the battery pack is not in use, keep it away from other metal objects.

2. PRODUCT OVERVIEW

The MINIXTEC USPECIAL 20V Cordless Brushless Drill Set is designed for various drilling and driving tasks in wood, metal, and plastic. It features a powerful brushless motor for extended life and efficiency.

2.1 Components Identification



Figure 2.1: Key components of the MINIXTEC 20V Cordless Brushless Drill. This image highlights the Torque Adjustment Ring, 2-Speed Gear Switch, 3/8" Keyless Chuck, LED Worklight, Forward/Reverse Switch, Speed On/Off Control Trigger, Anti-Slip Handle Grip, Battery Pack, and Battery Pack Release Button.

2.2 Key Features

- **Brushless Motor:** Provides better performance, longer operating times, and reduced noise compared to conventional brushed motors.
- **High Torque:** Up to 400 In-lbs (50 N.m) of torque for demanding applications.
- **Variable Speed:** Two-speed gear selection (0-600 RPM for driving, 0-1500 RPM for drilling) and a variable speed trigger for precise control.
- **Torque Settings:** 23+1 clutch settings (shown as 21+1 in some diagrams) for precise torque control to prevent over-driving screws.
- **1/2-Inch Metal Keyless Chuck:** Allows for quick and easy bit changes.
- **LED Work Light:** Illuminates the work area for improved visibility in dark environments.
- **Ergonomic Design:** Non-slip rubberized handle grip for comfortable and secure handling.

- **20V 3.0Ah Lithium-Ion Battery:** Provides ample power and runtime, with fast charging capability.

3. SETUP

3.1 Battery Charging

The battery pack is not fully charged at the time of purchase. It is recommended to fully charge the battery before first use.

1. Connect the fast charger to a standard power outlet.
2. Slide the battery pack onto the charger. Ensure it is securely seated.
3. The charger indicator light will show the charging status. A full charge typically takes 1 hour.
4. Once fully charged, disconnect the battery pack from the charger and unplug the charger from the outlet.



Figure 3.1: The 3.0Ah Lithium-Ion battery features overcurrent, over-pressure, overheating protection, and fast charging. The image also illustrates the battery charging process with the charger plugged into a wall outlet.

3.2 Battery Installation and Removal

- **To Install:** Align the battery pack with the base of the drill handle. Slide the battery pack into the handle until it clicks securely into place.
- **To Remove:** Press the Battery Pack Release Button located on the front of the battery pack. While holding the button, slide the battery pack out of the drill handle.

3.3 Chuck Operation and Accessory Installation

The drill features a 1/2-inch metal keyless chuck for easy bit changes.

1. **To Open the Chuck:** Hold the rear part of the chuck (the part closest to the drill body) with one hand and rotate the front part (the sleeve) counter-clockwise until the chuck jaws are open wide enough to insert the desired accessory.
2. **To Insert an Accessory:** Insert the drill bit or screwdriver bit into the chuck jaws as far as it will go.
3. **To Close and Secure the Chuck:** Hold the rear part of the chuck and rotate the front part clockwise until the chuck jaws firmly grip the accessory. Hand-tighten firmly to prevent the bit from slipping during operation.



Figure 3.2: The drill's 1/2-inch keyless chuck and torque adjustment ring. The image also illustrates the drill's versatility for working with metal, wood, and screws, indicating its use for both drilling and driving.

4. OPERATING INSTRUCTIONS

4.1 Power On/Off and Speed Control

The drill is activated by the Speed On/Off Control Trigger. The speed is variable depending on how far the trigger is pressed.

- **To Start:** Press the Speed On/Off Control Trigger. The further you press, the faster the drill will operate.
- **To Stop:** Release the Speed On/Off Control Trigger.

4.2 Forward/Reverse Rotation

The Forward/Reverse Switch controls the direction of rotation and also acts as a lock-off mechanism.

- **Forward Rotation:** Push the switch to the left (when viewed from the operating position) for clockwise rotation, used for drilling and driving screws.
- **Reverse Rotation:** Push the switch to the right for counter-clockwise rotation, used for removing screws or backing out drill bits.
- **Lock-Off:** Set the switch to the center position to lock the trigger, preventing accidental startup. Always engage the lock-off when not in use or when changing accessories.

4.3 Torque Adjustment

The Torque Adjustment Ring allows you to select the appropriate torque setting for your task, preventing over-driving screws or damaging materials.

- Rotate the Torque Adjustment Ring to select a setting from 1 to 23. Lower numbers are for smaller screws and softer materials, while higher numbers are for larger screws and harder materials.
- The drill symbol setting (often marked with a drill bit icon) bypasses the clutch and provides maximum torque for drilling applications.

4.4 Speed Gear Selection

The 2-Speed Gear Switch allows you to select between two speed ranges for optimal performance.

- **Gear 1 (Low Speed, 0-600 RPM):** Ideal for driving screws, applications requiring high torque, or drilling large diameter holes.
- **Gear 2 (High Speed, 0-1500 RPM):** Suitable for fast drilling in most materials.

Always select the appropriate gear before starting the drill. Do not change gears while the drill is running.



Figure 4.1: The 2-Speed Adjustable Gear Switch. Position '1' provides 0-600 RPM, suitable for screw driving, while position '2' provides 0-1500 RPM, suitable for drilling.

4.5 LED Work Light

The integrated LED work light automatically illuminates when the trigger is pressed, providing visibility in dimly lit work areas.



Figure 4.2: The LED light illuminates the work environment, enhancing visibility during operation.

4.6 Applications

The MINIXTEC USPECIAL drill is versatile for various tasks:



Figure 4.3: The drill in use for various applications, including drilling into wood and metal, and driving screws. The image also shows the use of a flexible shaft for reaching tight spaces.

- **Drilling:** Use appropriate drill bits for wood, metal, or plastic. Ensure the drill is in high-speed gear (Gear 2) and the torque ring is set to the drill symbol.
- **Driving Screws:** Use appropriate screwdriver bits. Set the drill to low-speed gear (Gear 1) and adjust the torque ring to prevent over-driving.
- **Using Flexible Shaft:** For hard-to-reach areas, attach the flexible shaft accessory to the chuck, then insert the desired bit into the flexible shaft.

5. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your drill.

5.1 Cleaning

- Always disconnect the battery pack before cleaning.

- Use a soft, damp cloth to clean the exterior of the tool. Do not use harsh chemicals or abrasive cleaners.
- Use a cleaning brush (included in the kit) or compressed air to clear dust and debris from ventilation openings and the chuck area.

5.2 Battery Care

- Store battery packs in a cool, dry place away from direct sunlight and extreme temperatures.
- Do not store battery packs in a discharged state for extended periods. Recharge them periodically if not in use.
- Do not attempt to open or modify the battery pack.

5.3 Storage

- Store the drill and accessories in the provided canvas bag or plastic box in a secure, dry place, out of reach of children.
- Ensure the battery pack is removed from the drill before storage.

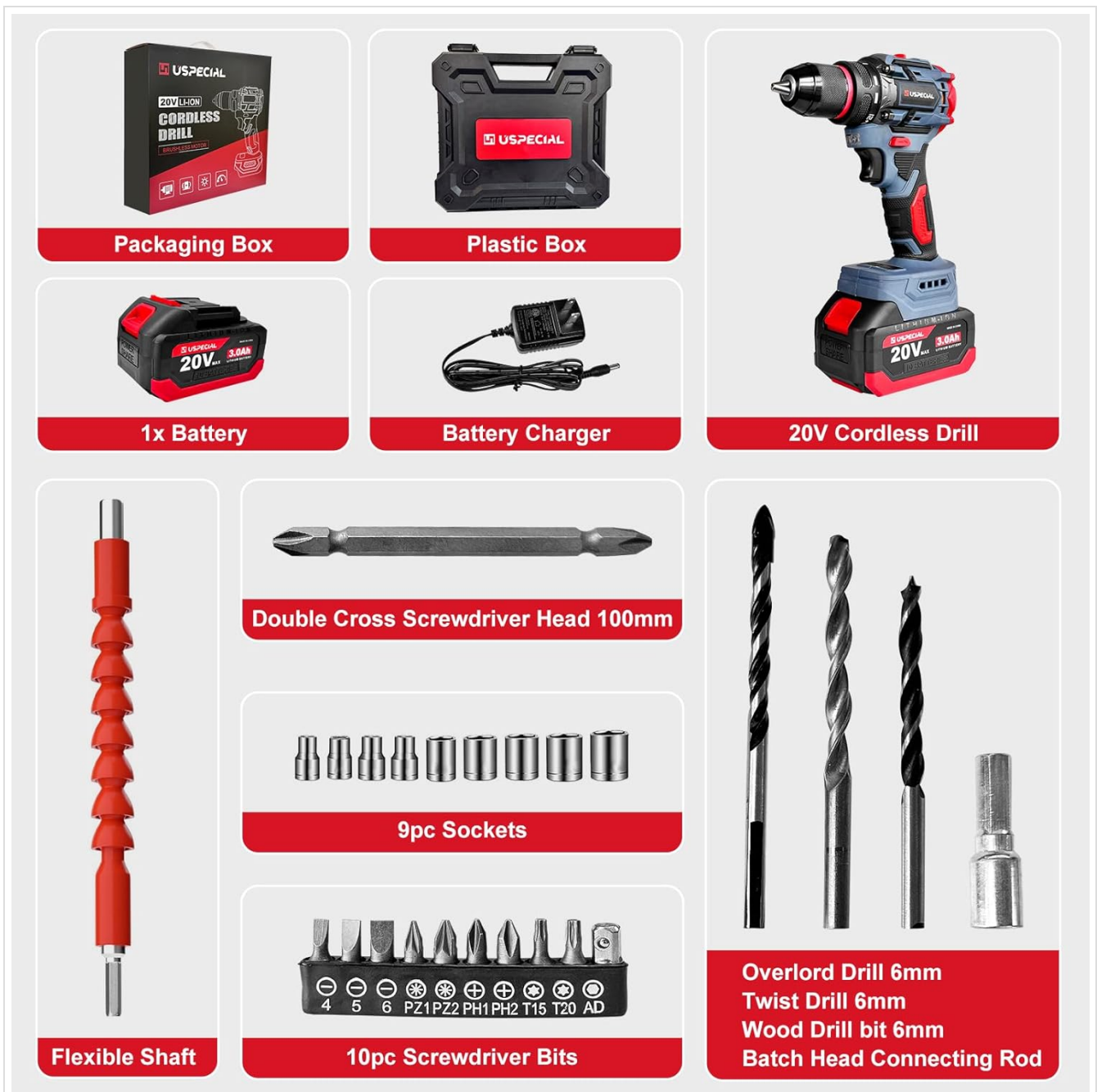


Figure 5.1: The complete set of included accessories, including the canvas bag and plastic box for storage, battery, charger, drill, and various bits and shafts.

6. TROUBLESHOOTING

Refer to the table below for common issues and their solutions.

Problem	Possible Cause	Solution
Drill does not start	Battery not charged or improperly installed; Forward/Reverse switch in lock-off position.	Charge battery and ensure it is securely installed. Move Forward/Reverse switch out of the center lock-off position.
Loss of power during operation	Battery charge is low.	Recharge the battery pack.
Bit slips in chuck	Chuck not tightened sufficiently.	Ensure the chuck is hand-tightened firmly around the bit.
Drill overheats	Overloading the tool; Blocked ventilation slots.	Reduce load. Allow the tool to cool. Clear any obstructions from ventilation slots.
Battery not charging	Charger not plugged in; Faulty battery or charger.	Check power connection. If problem persists, contact customer support.

7. SPECIFICATIONS

Detailed technical specifications for the MINIXTEC USPECIAL 20V Cordless Brushless Drill Set.

Feature	Specification
Model Number	20V Electric Drill
Power Source	Battery Powered
Voltage	20V
Motor Type	Brushless
Chuck Size	1/2-inch (Keyless Metal Chuck)
Max Torque	400 In-lbs (approx. 50 N.m)
No-Load Speed (Gear 1)	0-600 RPM
No-Load Speed (Gear 2)	0-1500 RPM
Torque Settings	23+1 (Drill Mode)
Battery Type	Lithium-Ion

Feature	Specification
Battery Capacity	3.0 Ah
Charger Input	Standard AC (Fast Charger)
Product Dimensions	30.99 x 11 x 31.98 cm (12.2 x 4.33 x 12.59 inches)
Item Weight	2.72 kg
Included Components	Brushless Drill, Fast Charger, 20V 3.0Ah Battery, Drill bits, Driver bits, Cleaning brush, Metal Belt Hook, Canvas bag, Flexible shaft, Extended bar

8. WARRANTY AND SUPPORT

For warranty information, technical support, or to purchase replacement parts, please refer to the documentation included with your product or visit the official MINIXTEC website. Keep your purchase receipt as proof of purchase for any warranty claims.

Manufacturer: MINIXTEC