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BLACK+DECKER 445861-30

Instruction Manual

OEM 445861-30 Replacement Brush & Lead for Black & Decker Angle Grinders

1. PRODUCT OVERVIEW

This document provides essential information for the installation and maintenance of the OEM 445861-30 Replacement Brush & Lead. This component is a genuine replacement part designed to restore the functionality of compatible Black & Decker angle grinders and other power tools.

The brush and lead assembly is crucial for transmitting electrical current to the motor's commutator, enabling the tool's operation. Regular inspection and timely replacement of these parts ensure optimal performance and extend the lifespan of your power tool.

2. COMPATIBILITY

The 445861-30 Replacement Brush & Lead is compatible with a range of Black & Decker power tools. Please verify your tool's model number against the list below to ensure compatibility.

Compatible Models:

- DW402-220
- 2750-220
- 4287-220
- DW443-AU
- DW318-220
- MBR100-52
- DW893-220
- DW887-220
- DW898-220
- DW897-220
- 3382K-46
- MBR100-25

3. SPECIFICATIONS

Key specifications for the 445861-30 Replacement Brush & Lead are provided below:

Attribute	Value
Part Number	445861-30
Item Weight	1.06 ounces
Product Dimensions	0.5 x 2.3 x 0.25 inches
Power Source	Manual (component for electric tools)
Item Package Quantity	1

4. INSTALLATION (SETUP)

Replacing carbon brushes requires careful attention to detail and safety. Always ensure the power tool is disconnected from its power source before beginning any maintenance or installation.

Required Tools:

- Screwdriver (appropriate type for your tool)
- Pliers (optional, for removing old leads)
- Clean cloth

Installation Steps:

1. **Safety First:** Disconnect the power tool from the electrical outlet or remove the battery pack.
2. **Locate Brush Caps:** Identify the brush caps on the motor housing. These are typically small, round, or rectangular covers.
3. **Remove Old Brushes:** Unscrew or unclip the brush caps. Carefully pull out the old carbon brushes and their leads. Note their orientation.
4. **Clean Brush Holders:** Use a clean cloth to wipe away any carbon dust or debris from the brush holders. Ensure the area is clean for optimal contact.
5. **Insert New Brushes:** Insert the new 445861-30 replacement brush and lead into the brush holder. Ensure the carbon brush slides smoothly and the lead is positioned correctly. The brush should sit flush within its holder.
6. **Secure Brush Caps:** Replace and tighten the brush caps securely. Do not overtighten.
7. **Test Functionality:** Reconnect the power tool to its power source and perform a brief test run to ensure the new brushes are functioning correctly. Listen for unusual noises and observe for proper motor operation.



Image 1: The OEM 445861-30 Replacement Brush and Lead. This image shows the carbon block, the wire lead, and the terminal connector. The carbon block is dark gray with "L82" visible on its surface, and the lead connects it to a brass-colored terminal.

5. OPERATING PRINCIPLES

While this product is a replacement part and not an operating device itself, understanding its role is important. Carbon brushes are consumable components in universal motors (commonly found in angle grinders and other power tools). They conduct electricity from the stationary part of the motor (stator) to the rotating part (rotor/armature) via the commutator. As the motor operates, the brushes wear down due to friction and electrical arcing. When they become too short or damaged, electrical contact is lost or becomes intermittent, leading to reduced performance or complete failure of the tool. Replacing them restores proper electrical flow and motor function.

6. MAINTENANCE

Proper maintenance of your power tool, including its carbon brushes, can prolong its life and ensure consistent performance.

- **Regular Inspection:** Periodically inspect the carbon brushes for wear. Signs of wear include reduced brush length, chipping, or excessive sparking.
- **Cleanliness:** Keep the brush holders and commutator free of carbon dust. Accumulated dust can cause arcing and premature wear.
- **Timely Replacement:** Replace brushes when they reach their wear limit (typically indicated by a wear line or when they are significantly shorter than new brushes). Always replace both brushes at the same time, even if only one appears worn, to ensure balanced motor operation.
- **Use Genuine Parts:** Always use genuine OEM or equivalent quality replacement parts to ensure compatibility and optimal performance.

7. TROUBLESHOOTING

If your power tool is experiencing issues after brush replacement, consider the following troubleshooting steps:

- **Tool Not Starting:**

- Ensure brushes are fully seated and brush caps are securely tightened.
- Check that the leads are properly connected and not pinched.
- Verify power supply to the tool.

- **Excessive Sparking:**

- This can be normal for new brushes as they seat, but excessive sparking may indicate improper installation, a dirty commutator, or a damaged armature.
- Ensure the commutator is clean and free of grooves or pitting.

- **Reduced Power or Intermittent Operation:**

- Re-check brush seating and lead connections.
- Inspect the commutator for damage or excessive wear.

If issues persist, it is recommended to consult a qualified technician or the tool's manufacturer for further assistance.

8. WARRANTY AND SUPPORT

This OEM replacement part is manufactured to high standards. For specific warranty information regarding your power tool or this replacement part, please refer to the original product documentation or contact the manufacturer directly. For additional support or to explore other genuine BLACK+DECKER parts and accessories, you may visit the official BLACK+DECKER store:

Visit the BLACK+DECKER
Store