

## defoo 765074278396

# defoo Carbon Motor Brushes Instruction Manual

For Table Saws and Miter Saws (Model 765074278396)

## 1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of defoo Carbon Motor Brushes. Carbon brushes are critical components in many electric motors, including those found in table saws and miter saws. They conduct electricity between stationary and rotating parts of the motor, ensuring efficient power transfer. Regular inspection and timely replacement of carbon brushes are vital for maintaining tool performance and extending motor life.

These defoo carbon motor brushes are designed for reliable performance and broad compatibility with various power tools. Please read this manual thoroughly before attempting any installation or maintenance.

## 2. SAFETY INFORMATION

Always prioritize safety when working with power tools and electrical components. Failure to follow these safety guidelines may result in injury or damage to equipment.

- **Disconnect Power:** Always unplug the power tool from its power source before performing any maintenance, inspection, or installation of carbon brushes.
- **Wear Protective Gear:** Use appropriate personal protective equipment (PPE), such as safety glasses and gloves, to prevent injury.
- **Consult Tool Manual:** Refer to your specific power tool's instruction manual for detailed disassembly and reassembly procedures.
- **Proper Tools:** Use only appropriate tools for the task to avoid damaging components.
- **Electrical Safety:** Be aware of electrical hazards. If you are unsure about any electrical procedure, consult a qualified technician.
- **Keep Work Area Clean:** Ensure your work area is clean, well-lit, and free of obstructions.

## 3. PACKAGE CONTENTS

Your defoo Carbon Motor Brushes package should contain the following items:

- defoo Carbon Motor Brushes (quantity as ordered, typically a pair)

*Note: No additional tools or components are included with the carbon brushes.*



Image 1: A pair of defoo carbon motor brushes, showing the carbon block, spring, and copper wire connector.

## 4. SETUP AND INSTALLATION

Replacing carbon brushes is a common maintenance task for many power tools. The exact procedure may vary slightly depending on your tool's model. Always refer to your power tool's specific service manual for precise instructions.

1. **Disconnect Power:** Ensure the power tool is unplugged from the electrical outlet. This is a critical safety step.
2. **Locate Brush Caps:** Identify the brush caps on your power tool's motor housing. These are typically small, round, or rectangular covers, often made of plastic or metal, that secure the carbon brushes in place. They may require a screwdriver or a coin to remove.
3. **Remove Old Brushes:** Carefully unscrew or unclip the brush caps. The old carbon brushes, along with their springs, will likely slide out. Note their orientation for correct installation of the new brushes.
4. **Inspect Commutator:** While the brushes are removed, inspect the commutator (the copper segments on the motor's armature). It should be clean and smooth. If it's excessively worn, grooved, or dirty, further motor service may be required.
5. **Insert New Brushes:** Gently insert the new defoo carbon brushes into the brush holders. Ensure the copper wire lead is properly connected and the brush slides freely. The carbon block should sit flush against the commutator.
6. **Secure Brush Caps:** Carefully replace and tighten the brush caps. Do not overtighten, as this can damage the caps or housing.
7. **Test Tool:** Plug the power tool back into the electrical outlet. Briefly run the tool at a low speed to allow the new brushes to seat properly. It is normal to see some sparks initially, which should reduce as the brushes conform to the commutator.



Image 2: A detailed view of a single defoo carbon motor brush, highlighting its construction.

## 5. OPERATING PRINCIPLES

Carbon brushes are essential for the operation of universal motors, commonly found in many power tools. They serve as electrical contacts that transfer current from the stationary part of the motor (stator) to the rotating part (rotor/armature) via the commutator. As the motor operates, the carbon brushes wear down due to friction and electrical arcing. This wear is normal and indicates that the brushes are performing their function. When brushes become too short, they can no longer make proper contact with the commutator, leading to reduced performance or complete motor failure.

## 6. MAINTENANCE

Regular inspection of carbon brushes is recommended to ensure optimal performance and prevent unexpected tool downtime.

- **Inspection Frequency:** Inspect carbon brushes every 50-100 hours of tool operation, or if you notice any signs of reduced performance.
- **Signs of Wear:** Replace brushes when they are worn down to approximately one-quarter of their original length, or if they appear chipped, cracked, or unevenly worn.
- **Cleanliness:** Keep the brush holders and commutator clean. Dust and debris can interfere with proper brush contact.
- **Replace in Pairs:** Always replace both carbon brushes at the same time, even if only one appears significantly worn. This ensures balanced motor performance.

## 7. TROUBLESHOOTING

If your power tool is experiencing issues, worn carbon brushes could be a contributing factor. Consider the following common problems and solutions:

Symptom	Possible Cause	Solution
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Symptom	Possible Cause	Solution
Motor not starting or intermittent operation	Worn or stuck carbon brushes	Inspect and replace carbon brushes. Ensure brushes move freely in their holders.
Excessive sparking at the motor	Worn brushes, dirty commutator, or incorrect brush seating	Replace brushes. Clean commutator. Allow new brushes to seat properly.
Reduced motor power or speed	Worn brushes not making full contact	Replace carbon brushes.
Burning smell from motor	Severely worn brushes or motor overheating	Immediately disconnect power. Inspect and replace brushes. If smell persists, seek professional service.

## 8. SPECIFICATIONS

- **Brand:** defoo
- **Item Model Number:** 765074278396
- **Item Weight:** Approximately 0.02 Kilograms (0.81 ounces)
- **Included Components:** Bare Tool (Carbon Brushes)
- **Key Characteristics:** Long-lasting Performance, Versatile Compatibility
- **Package Dimensions:** 3.78 x 2.56 x 0.59 inches

## 9. COMPATIBLE MODELS

These defoo carbon motor brushes are compatible with a wide range of table saws, miter saws, circular saws, and abrasive chop saws. Please verify your tool's model number against this list:

- 137.186290 Miter Saw
- 137.212000 Miter Saw
- 137.212030 Compound Miter Saw
- 137.212060 Miter Saw
- 137.212070 Miter Saw
- 137.212090 Compound Miter Saw
- 137.212140 Miter Saw
- 137.212150 Miter Saw
- 137.212170 Compound Saw
- 137.212210 Miter Saw
- 137.212290 Miter Saw
- 137.212310 Compound Miter Saw
- 137.212370 Compound Miter Saw
- 137.212371 Miter Saw
- 137.212390 Miter Saw
- 137.212520 Miter Saw
- 137.212521 Miter Saw

- 137.212540 Miter Saw
- 137.212890 Abrasive Chop Saw
- 137.212920 Miter Saw
- 137.218010 Table Saw
- 137.218030 Table Saw
- 137.218040 Table Saw
- 137.218070 Table Saw
- 137.218071 Table Saw
- 137.218100 Table Saw
- 137.218101 Circular Saw
- 137.218240 Table Saw
- 137.218250 Table Saw
- 137.218251 Table Saw
- 137.218300 Table Saw
- 137.218301 Table Saw
- 137.218780 Table Saw
- 137.228010 Table Saw
- 137.234960 10" Compound Miter Saw
- 137.242750 Circular Saw
- 137.242760 10" Compound Miter Saw
- 137.248100 Table Saw
- 137.248101 Circular Saw
- 137.248250 Table Saw
- 137.248480 Table Saw
- 137.248481 Table Saw
- 137.248830 10" Table Saw
- 137.248840 Table Saw
- 137.248850 Table Saw
- 137.248880 Table Saw
- 137.271140 Table Saw
- 137.271180 Table Saw
- 137.272220 Table Saw
- 137.285100 Miter Saw
- 137.285210 Miter Saw
- 137.285220 Miter Saw
- 137.285320 10" Compound Miter Saw
- 137.285350 Miter Saw
- 137.285540 Miter Saw
- 137.285680 Miter Saw
- 137.285850 Miter Saw
- 137.285870 Miter Saw
- 137.375630 14" Abrasive Chop Saw
- 137.407530 10" Compact Slide Miter Saw

- 137.415020 10" Jobsite Table Saw

## 10. WARRANTY INFORMATION

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This product is covered by a limited warranty. For specific details regarding warranty coverage, terms, and conditions, please refer to the product packaging or contact defoo customer support.

## 11. SUPPORT

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For further assistance, technical questions, or to report any issues with your defoo Carbon Motor Brushes, please contact the manufacturer or your retailer. When contacting support, please have your product model number (765074278396) and details of your power tool readily available.