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> **RAINBOW** /

> **Rainbow Genuine D4 SE Motor Brush (Version 2) Instruction Manual**

RAINBOW R5125

Rainbow Genuine D4 SE Motor Brush (Version 2) Instruction Manual

Brand: RAINBOW | **Model:** R5125

1. PRODUCT OVERVIEW

This manual provides essential information for the installation, maintenance, and proper use of the Rainbow Genuine D4 SE Motor Brush, Version 2. This component is crucial for the optimal performance of your Rainbow D4 SE vacuum cleaner.

**Tall motor brush (.589 inches high or between 9/16 and 5/8 inch) for the D4 SE (Special Edition) motor design.
Cannot be used with the older armature design that uses the shorter motor brushes.**

Effective serial number 7520715 and fits the R5124 tall holders.

The R2421 is the carbon brush that you need if your serial number is lower or if your measurement is smaller.



Image 1.1: The Rainbow Genuine D4 SE Motor Brush, Version 2. This brush is a critical component for the motor's electrical contact and operation.

2. COMPATIBILITY

The Rainbow Genuine D4 SE Motor Brush (Version 2) is specifically designed for the D4 SE (Special Edition) motor design. It is compatible with units having a serial number of **7520715** and higher. This brush fits the **R5124 tall brush holder**.

This motor brush measures approximately **0.589 inches wide** (between 9/16 and 5/8 inch). It cannot be used with older armature designs that require shorter motor brushes.

If your vacuum's serial number is lower than 7520715, or if your brush measurement is smaller, you may require the R2421 carbon brush instead. Always verify the dimensions of your existing brush and the serial number of your unit before purchasing a replacement.



Image 2.1: A digital caliper measuring the width of the motor brush, displaying 0.589 inches. This measurement confirms compatibility with the D4 SE motor design.

3. INSTALLATION GUIDELINES

Proper installation of motor brushes is essential for the longevity and performance of your Rainbow vacuum. Follow these guidelines carefully:

1. **Replace in Pairs:** Always replace both carbon brushes at the same time. Mixing new brushes with old ones, or with different types (e.g., standard with high-amp R6592), can lead to uneven wear and motor damage.
2. **Proper Seating:** Ensure the new carbon brushes are properly seated. Incorrect seating can cause premature brush and commutator damage, leading to costly maintenance and downtime. Properly seated brushes allow the motor to draw rated current almost immediately.
3. **Clean Carbon Dust:** After replacing brushes, vacuum any excess carbon dust from the motor area. This prevents dust from reaching machine windings and bearings, which can cause electrical shorts or mechanical wear.

Note: The M596 Seating Stone is designed to "clean up" the commutator of the armature, not to "seat" the brushes. Brush seating is achieved through proper installation and initial operation.



Image 3.1: A detailed view of the motor brush, highlighting its carbon tip and spring mechanism. Proper orientation and seating of these components are vital during installation.

4. OPERATION AND FUNCTION

The motor brush facilitates electrical contact between the stationary parts of the motor and the rotating commutator. As the motor operates, the carbon brush conducts electricity, allowing the motor to spin. Over time, these brushes wear down due to friction and electrical arcing.

While the brush itself does not have operational controls, its proper function is integral to the vacuum cleaner's motor operation. A well-maintained brush ensures consistent power delivery and efficient motor performance.

5. MAINTENANCE AND LONGEVITY

Motor brushes are wear-and-tear components and require periodic inspection and replacement. The lifespan of a motor brush can vary based on usage and proper installation.

- **Regular Inspection:** Periodically inspect your motor brushes for signs of wear, such as excessive shortening, chipping, or uneven wear patterns.
- **Replacement Schedule:** If motor brushes are not properly seated during installation, their lifespan can be significantly reduced, potentially lasting only about one year. Properly seated brushes will last longer, but should still be checked as part of routine maintenance.
- **Preventative Measures:** Ensure the motor is kept free of excessive dust and debris, which can accelerate brush wear.



Image 5.1: The packaging for the Rainbow Genuine D4 SE Motor Brush, Version 2. Always use genuine parts for optimal performance and compatibility.

6. TROUBLESHOOTING COMMON ISSUES

Issues related to motor brushes often manifest as motor performance problems. Here are some common issues and their potential causes:

- **Motor Sparking:** Excessive sparking at the commutator can indicate worn-out brushes, improper seating, or a dirty/damaged commutator.
- **Reduced Motor Power:** Worn brushes may not make consistent contact, leading to intermittent power or reduced motor speed.
- **Motor Failure to Start:** Severely worn or stuck brushes can prevent the motor from starting.
- **Unusual Noises:** Grinding or squealing noises can sometimes be attributed to worn brushes or issues with the commutator.

If you experience any of these symptoms, inspect your motor brushes and commutator. Replace brushes as necessary, ensuring proper installation as described in Section 3.

7. SPECIFICATIONS

Attribute	Value
Brand	RAINBOW
Model Number	R5125
Material	Carbon
Item Weight	4 ounces
Package Dimensions	4 x 4 x 0.04 inches
Compatibility	Rainbow D4 SE (Serial #7520715 and higher), R5124 tall brush holder
Brush Width	0.589 inches (approx. 9/16 to 5/8 inch)

8. MANUFACTURER INFORMATION

This genuine Rainbow product is manufactured by Rexair. For further information or assistance, please refer to the official Rainbow website or authorized service centers.



Image 8.1: The official RAINBOW brand logo and "Made in USA" emblem, indicating product origin and authenticity.