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> Buildalot Specialty Carbon Brushes for Virutex TS48D Powertools Instruction Manual

Buildalot 0551_Virutex_TS48D

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Model: 0551_Virutex_TS48D

1. INTRODUCTION

This manual provides essential information for the proper installation, maintenance, and troubleshooting of your Buildalot Specialty Carbon Brushes, model 0551_Virutex_TS48D. These carbon brushes are designed as replacement parts for Virutex TS48D Powertools, ensuring optimal performance and longevity of your equipment. Please read this manual thoroughly before attempting any installation or maintenance procedures.

2. PRODUCT OVERVIEW

Carbon brushes are critical components in many electric motors, including those found in power tools. They conduct electricity between the stationary and rotating parts of the motor, facilitating its operation. Over time, carbon brushes wear down and require replacement to maintain motor efficiency and prevent damage. This product includes a pair of carbon brushes with integrated cables and connectors, specifically engineered to replace original parts 2417021 and 24170221 in Virutex TS48D Powertools.



Figure 1: A pair of Buildalot Specialty Carbon Brushes, featuring the carbon block, spring, and copper wire with connector. These brushes are essential for the electrical conductivity within your power tool's motor.

3. 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 ensure the power tool is unplugged from the electrical outlet before performing any maintenance or replacement procedures.
- **Wear Protective Gear:** Use appropriate personal protective equipment (PPE), such as safety glasses and gloves, to prevent injury.
- **Consult Tool Manual:** Refer to your Virutex TS48D power tool's original instruction manual for specific disassembly and reassembly instructions.
- **Qualified Personnel:** If you are unsure about any procedure, seek assistance from a qualified technician.
- **Proper Storage:** Store carbon brushes in a dry, cool place, away from direct sunlight and moisture.

4. INSTALLATION (BRUSH REPLACEMENT)

Replacing carbon brushes is a common maintenance task for power tools. Follow these general steps for installation. Specific procedures may vary slightly depending on your Virutex TS48D model.

1. **Prepare the Tool:** Ensure the power tool is unplugged. Place it on a stable, clean work surface.
2. **Locate Brush Caps:** Identify the brush caps on the motor housing. These are typically small, screw-in or clip-on covers.
3. **Remove Old Brushes:** Carefully unscrew or unclip the brush caps. The old carbon brush, spring, and wire assembly will be accessible. Gently pull out the old brush. Note its orientation.
4. **Inspect Commutator:** While the brushes are out, inspect the commutator (the copper segments on the motor's armature). It should be clean and smooth. If it's excessively grooved or dirty, professional servicing may be required.

5. **Insert New Brushes:** Insert the new Buildalot carbon brush into the brush holder, ensuring the carbon block slides smoothly and the spring applies pressure correctly. The copper wire and connector should be positioned to avoid interference.
6. **Secure Brush Caps:** Replace and tighten the brush caps securely. Do not overtighten.
7. **Test Operation:** Plug in the power tool and run it briefly at a low speed to allow the new brushes to seat properly. A slight sparking may occur initially, which is normal as the brushes conform to the commutator. If excessive sparking or unusual noises persist, discontinue use and re-check installation.



Figure 2: Schematic representation of a carbon brush assembly, illustrating the carbon block, spring, and electrical connection. This diagram aids in understanding the components during replacement.

5. OPERATING CONSIDERATIONS

Once installed, the carbon brushes operate automatically as part of the motor system. Proper installation ensures the tool functions as intended. Avoid overloading the power tool, as this can accelerate brush wear and potentially damage the motor.

6. MAINTENANCE

Regular inspection of carbon brushes is recommended, especially if the power tool experiences reduced performance, excessive sparking, or intermittent operation. The lifespan of carbon brushes varies depending on tool usage and operating conditions. Replace brushes when they are worn down to approximately one-quarter of their original length or if they show signs of chipping or damage.

7. TROUBLESHOOTING

If your Virutex TS48D power tool exhibits issues after brush replacement, consider the following:

- **No Power/Intermittent Power:**
 - Ensure brushes are fully seated and brush caps are securely tightened.
 - Check that the copper wires and connectors are properly attached and not pinched.
 - Verify the power cord and switch are functioning correctly.
- **Excessive Sparking:**
 - New brushes may spark slightly as they seat. If sparking is severe or persists, check for proper brush seating and commutator condition.
 - A dirty or damaged commutator can cause excessive sparking.
- **Reduced Performance/Unusual Noise:**
 - Ensure the correct brushes are installed for your specific tool model.
 - Check for any obstructions within the motor housing.

If troubleshooting steps do not resolve the issue, professional inspection and repair may be necessary.

8. SPECIFICATIONS

Attribute	Detail
Brand	Buildalot
Model Number	0551_Virutex_TS48D
Compatibility	Virutex TS48D Powertools
Replaces Part Numbers	2417021, 24170221
Item Package Quantity	2 (Pair)
Dimensions (Approx.)	0.25 x 0.39 x 0.81 inches (6.35 x 9.91 x 20.57 mm)
Item Weight (Each)	0.32 ounces (9.07 g)
Features	With Cable and Connector

9. WARRANTY AND SUPPORT

For information regarding warranty coverage or technical support, please refer to the Buildalot official website or contact their customer service department. Keep your purchase receipt as proof of purchase.