

144001-1308

Generic 550 Brushed Motor Instruction Manual

For WLtoys 144001, 124018, 124019 RC Cars (Model 144001-1308)

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, maintenance, and troubleshooting of the Generic 550 Brushed Motor, model 144001-1308. This motor is designed as a direct replacement and upgrade part for WLtoys 144001, 124018, and 124019 remote control cars. Please read this manual thoroughly before installation and use to ensure proper function and longevity of the product.

2. SAFETY INFORMATION

- Always disconnect the battery from the RC car before performing any installation, maintenance, or repair work.
- Ensure all electrical connections are secure and properly insulated to prevent short circuits.
- Avoid touching the motor immediately after use, as it may become hot. Allow it to cool down before handling.
- Keep small parts and tools out of reach of children.
- Use appropriate tools for installation to prevent damage to the motor or other RC car components.

3. PRODUCT OVERVIEW

The 550 brushed motor is a robust power unit designed for high-performance RC vehicles. It features a durable metal casing and pre-attached wiring for easy connection. The motor is engineered to enhance the control performance and speed of compatible WLtoys RC car models.



Figure 3.1: Side view of the 550 brushed motor, illustrating its robust metal construction and output shaft.



Figure 3.2: End view of the 550 brushed motor, showing the pre-attached red and black power wires with connectors.

4. SETUP AND INSTALLATION

Follow these steps to properly install the 550 brushed motor into your WLtoys RC car.

4.1 Tools Required

- Small Phillips head screwdriver
- Hex wrenches (sizes may vary depending on your RC car model)
- Pliers (optional, for stubborn connectors)

4.2 Installation Steps

1. **Disconnect Power:** Ensure the RC car's battery is disconnected before starting.
2. **Access Motor Compartment:** Carefully remove the body shell and any covers or components obstructing access to the existing motor. Refer to your RC car's original manual for specific disassembly instructions.
3. **Remove Old Motor:** Disconnect the wires from the Electronic Speed Controller (ESC) and unbolt the old motor from its mount. Note the orientation of the motor and its wiring.
4. **Install New Motor:** Place the new 550 brushed motor into the motor mount. Secure it with the appropriate screws. Ensure the motor's pinion gear aligns correctly with the spur gear. Adjust the motor position if necessary to achieve proper gear mesh (a slight amount of play between gears is ideal).
5. **Connect Wiring:** Connect the red wire from the motor to the positive (+) terminal on the ESC and the black wire to the negative (-) terminal. Ensure connections are firm.

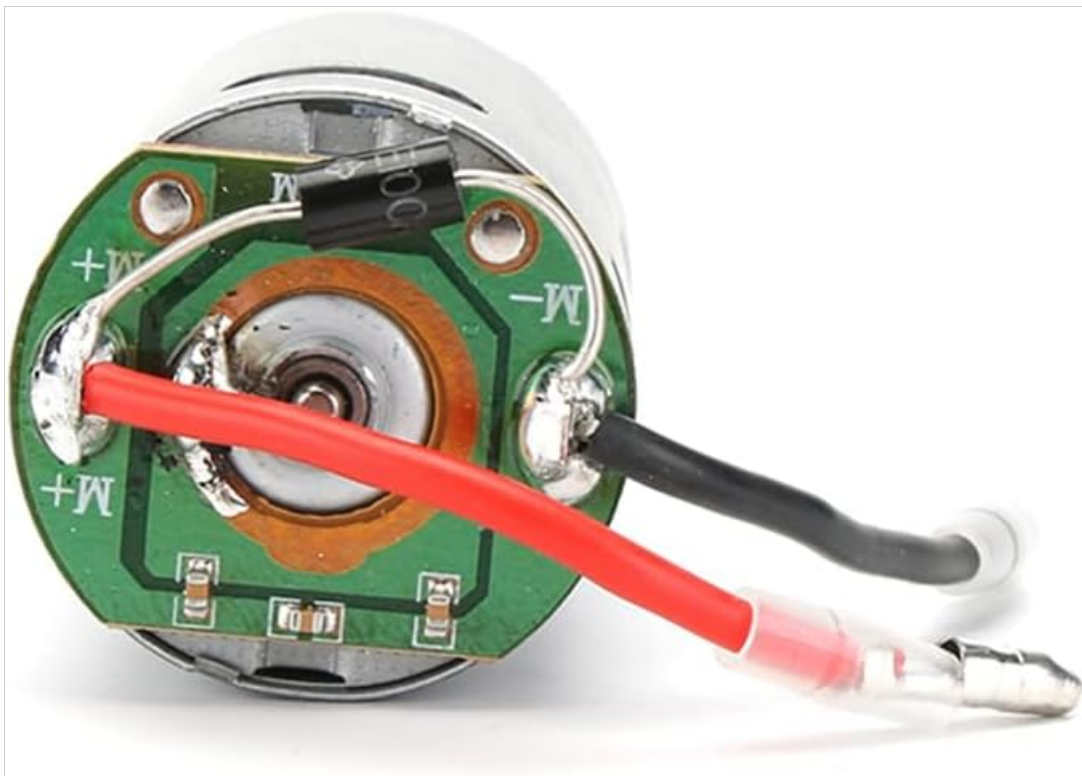


Figure 4.1: Detailed view of the motor's wiring terminals, indicating positive (+) and negative (-) connections for correct polarity.

6. **Test Functionality:** Reconnect the battery and perform a brief test to ensure the motor spins correctly and the car responds to throttle input. If the motor spins in reverse, reverse the polarity of the wires connected to the ESC (swap red and black).
7. **Reassemble:** Once confirmed working, reassemble all removed components and the body shell.

5. OPERATING INSTRUCTIONS

After successful installation, the 550 brushed motor is ready for operation. For optimal performance and longevity, consider the following:

- **Break-in Period:** For new brushed motors, a gentle break-in period is recommended. Run the motor at low throttle

for approximately 5-10 minutes without load (e.g., with the wheels off the ground) to properly seat the brushes.

- **Monitor Temperature:** During initial runs, periodically check the motor's temperature. Excessive heat can indicate improper gearing, over-stressing the motor, or an issue with the ESC.
- **Avoid Overloading:** Do not continuously run the RC car in conditions that put extreme strain on the motor, such as driving through thick grass or mud for extended periods, as this can lead to overheating and premature wear.

6. MAINTENANCE

Regular maintenance helps ensure the motor's performance and extends its lifespan.

- **Cleaning:** After each use, especially in dusty or dirty conditions, use compressed air or a soft brush to remove dirt and debris from the motor's cooling vents and exterior.
- **Check Connections:** Periodically inspect all wiring connections to ensure they are secure and free from corrosion or damage.
- **Gear Mesh:** Regularly check the gear mesh between the motor's pinion gear and the spur gear. Incorrect mesh can cause excessive wear on both gears and the motor.
- **Storage:** When not in use, store the motor in a clean, dry environment away from extreme temperatures.

7. TROUBLESHOOTING

If you encounter issues with your 550 brushed motor, refer to the following troubleshooting guide:

Problem	Possible Cause	Solution
Motor not spinning	Disconnected wires, faulty ESC, dead battery, motor damage	Check all wire connections. Test ESC with another motor if possible. Charge or replace battery. Inspect motor for visible damage.
Motor spins in reverse	Incorrect wire polarity	Swap the red and black wires connected to the ESC.
Motor overheating	Incorrect gear mesh, over-gearing, continuous heavy load, faulty ESC	Adjust gear mesh. Consider a smaller pinion gear. Reduce continuous heavy load. Check ESC for proper function.
Reduced performance/power	Low battery, worn motor brushes, motor damage	Charge battery fully. Brushed motors have a finite lifespan; consider replacement if brushes are worn.

8. SPECIFICATIONS

Key specifications for the Generic 550 Brushed Motor (Model 144001-1308):

- **Model Name:** 144001-1308
- **Material:** Metal
- **Item Weight:** 7.52 ounces
- **Number of Items:** 1

9. WARRANTY AND SUPPORT

This product is covered by the standard manufacturer's warranty against defects in materials and workmanship. For warranty claims or technical support, please contact your retailer or the manufacturer directly. Please have your purchase receipt and product model number (144001-1308) available when contacting support.



© 2023 Generic. All rights reserved.