## JTLB JTLBqxc401ymg6

# JTLB Brushless Hub Motor Wheel User Manual

Model: JTLBqxc401ymg6

## Introduction

This manual provides essential information for the installation, operation, and maintenance of your JTLB 70mm 150W 24V/36V Brushless Hub Motor Wheel. Designed for DIY electric skateboards, longboards, and mini scooters, this motor features a robust construction and advanced design for efficient and reliable performance. Please read this manual thoroughly before installation and use to ensure proper function and longevity of the product.

## Product Overview

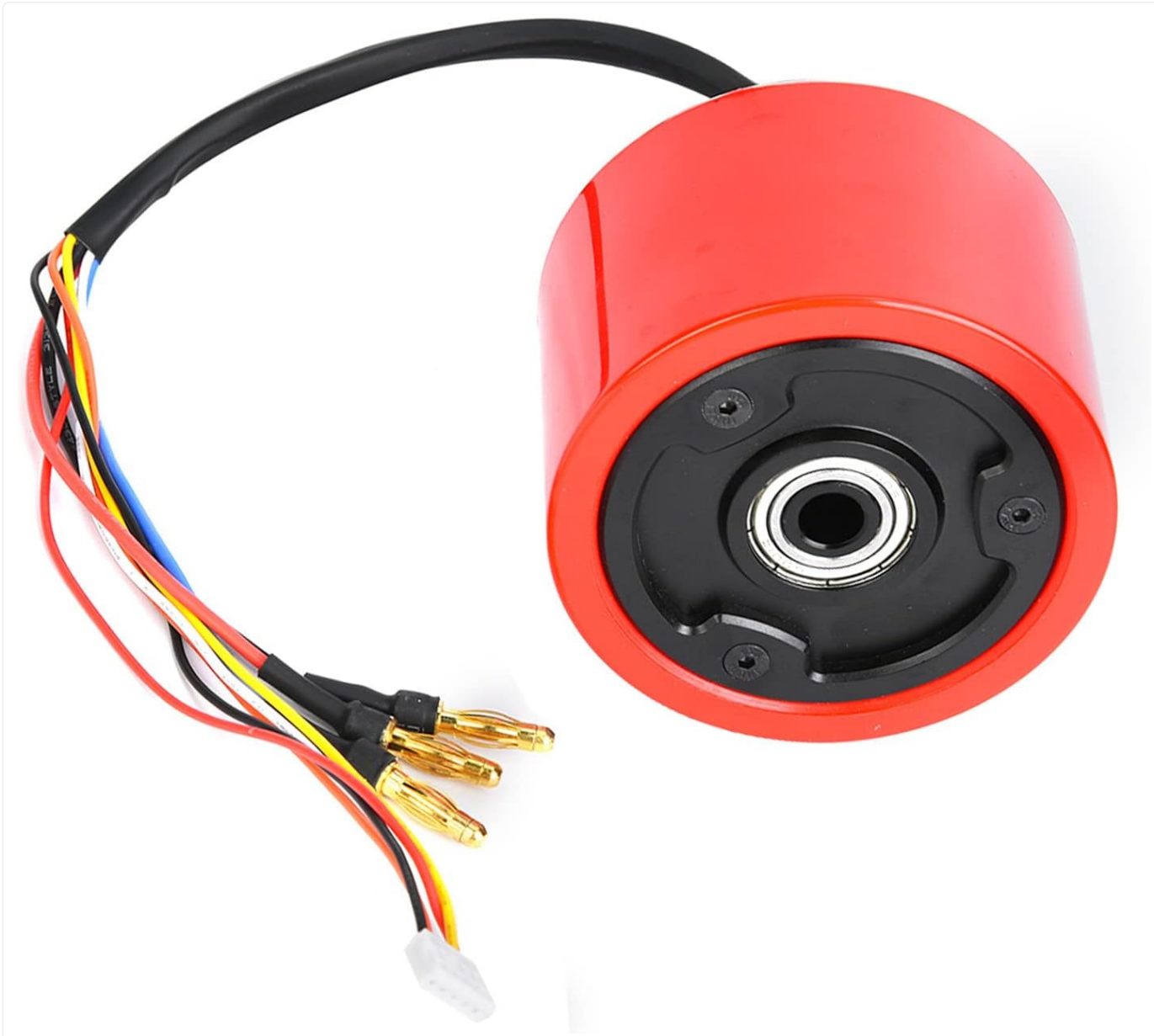

**Figure 1:** Front view of the JTLB Brushless Hub Motor Wheel, showing the main body, bearing, and connection wires with gold bullet connectors and a white Hall sensor connector.

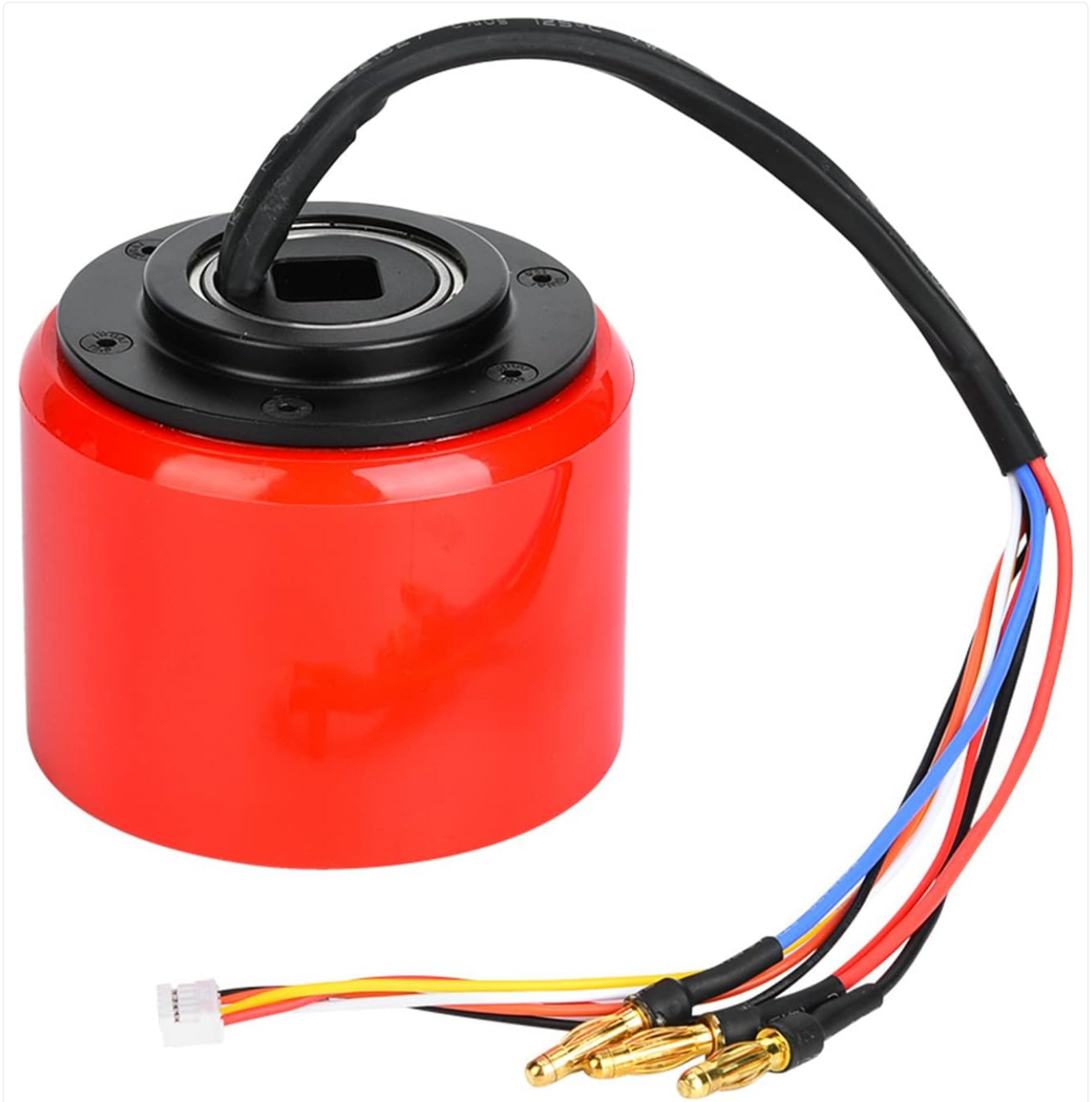

**Figure 2:** Side view of the JTLB Brushless Hub Motor Wheel, highlighting the robust red polyurethane wheel and the black motor housing with cable entry.

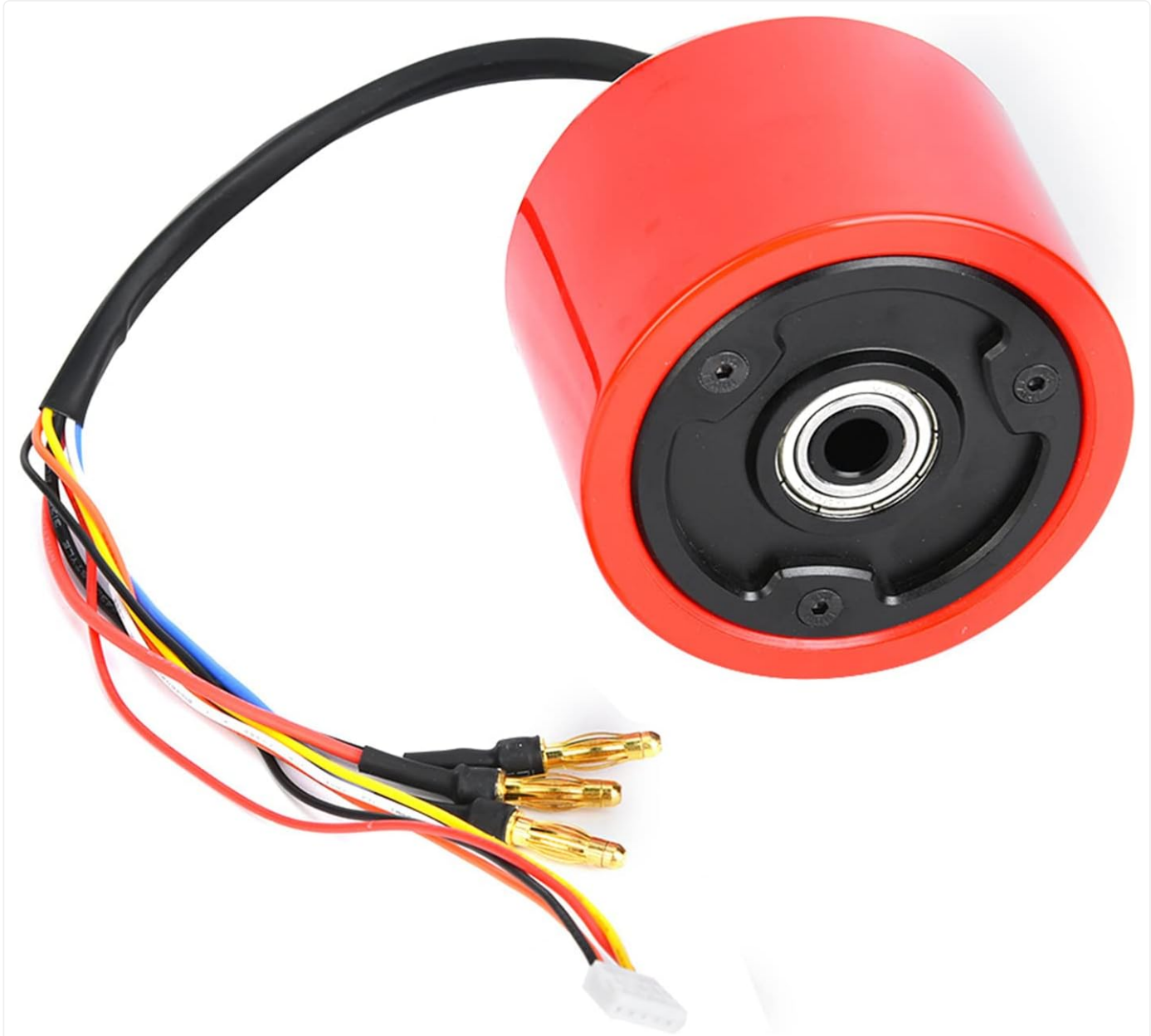

**Figure 3:** Top-down view of the motor, clearly showing the central bearing and mounting points on the black motor plate.

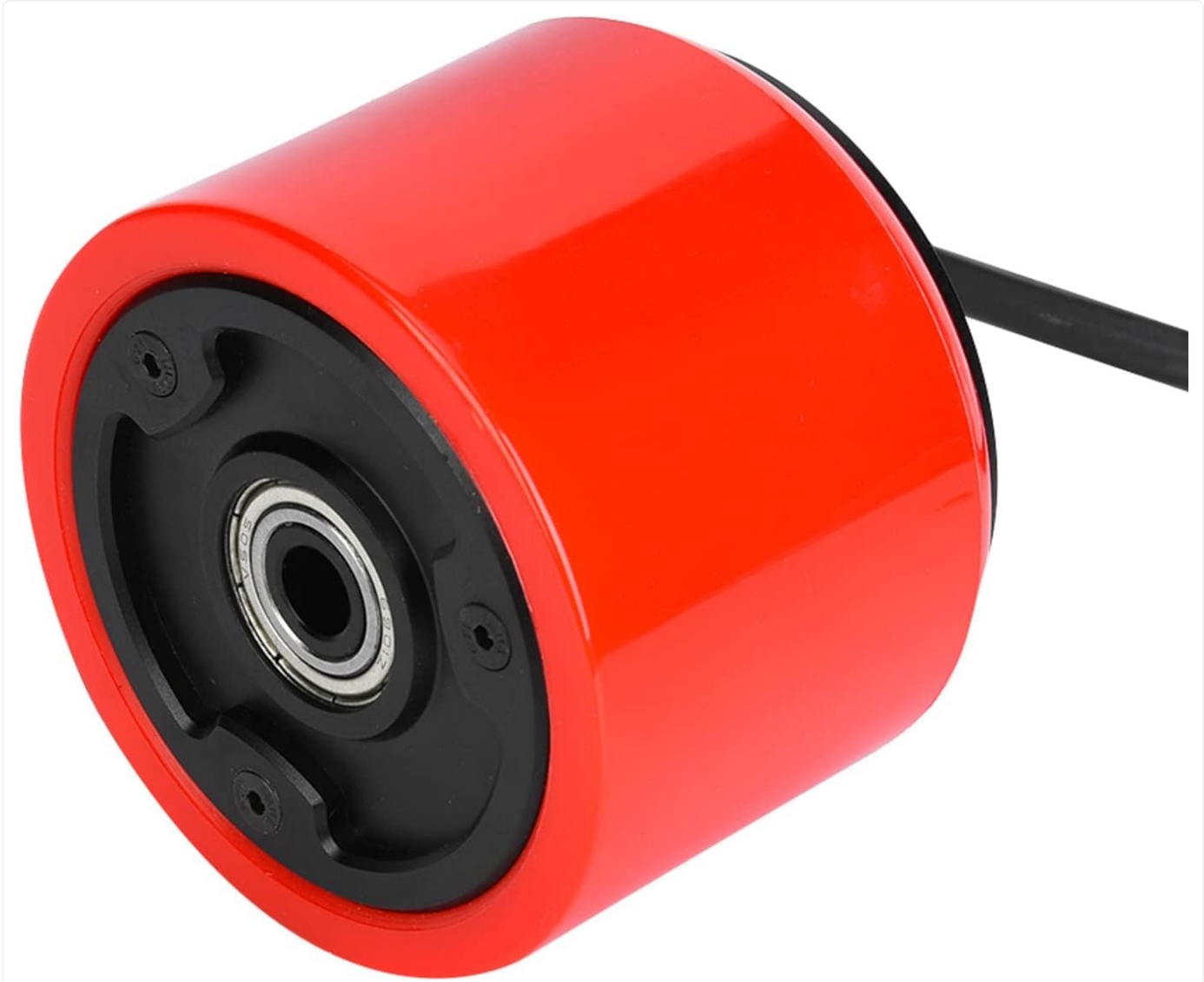

**Figure 4:** Another side perspective of the motor, emphasizing its compact and cylindrical design.

## Safety Information

Always observe the following safety precautions:

- Ensure all electrical connections are secure and properly insulated to prevent short circuits.
- Do not exceed the rated voltage (24V/36V) or maximum current (12A) to avoid damage to the motor or connected components.
- Keep the motor free from excessive dust and debris, despite its dustproof design, to maintain optimal performance.
- Avoid prolonged operation at maximum temperature resistance (120°C) to prevent overheating.
- Professional installation is recommended for users unfamiliar with electric skateboard component assembly.

## Setup and Installation

This hub motor is designed for integration into DIY electric skateboard, longboard, or mini scooter setups. Proper installation is crucial for performance and safety.

### Required Tools (Not Included):

- Appropriate wrenches or sockets for axle nuts.
- Screwdrivers for mounting the motor to the truck (if applicable).
- Wire strippers and crimpers for electrical connections.

- Heat shrink tubing or electrical tape for insulation.
- Multimeter for verifying electrical connections.

### Installation Steps:

1. **Prepare the Axle:** Ensure the skateboard truck's axle is clean and free of obstructions.
2. **Mount the Motor:** Slide the hub motor wheel onto the axle. Ensure it seats properly and is aligned with the truck. Secure it with the appropriate axle nuts, tightening them firmly but without overtightening to allow the bearing to spin freely.
3. **Connect Motor Phase Wires:** The motor has three main phase wires (typically thicker, often with gold bullet connectors). Connect these to your Electronic Speed Controller (ESC) according to the ESC's instructions. Ensure correct phase matching for proper rotation. If the motor spins in the wrong direction, swap any two of the three phase wires.
4. **Connect Hall Sensor Wires:** The motor also has a smaller connector with multiple thin wires (Hall sensor wires). Connect this to the corresponding Hall sensor port on your ESC. This connection is crucial for smooth startup and efficient operation, especially at low speeds.
5. **Insulate Connections:** After making all electrical connections, insulate them thoroughly using heat shrink tubing or high-quality electrical tape to prevent short circuits and protect against moisture.
6. **Test Functionality:** Before full assembly, perform a preliminary test of the motor with your ESC and battery to ensure it spins correctly and responds to throttle input.

## Operating Instructions

The JTLB Brushless Hub Motor Wheel operates as part of an electric propulsion system. Its performance is directly influenced by the quality and configuration of your ESC, battery, and control system.

- **Power Supply:** Ensure your battery provides the correct voltage (24V or 36V) and sufficient current for the motor's demands. An underpowered battery can lead to poor performance or damage.
- **Electronic Speed Controller (ESC):** The ESC controls the motor's speed and direction. Calibrate your ESC according to its manufacturer's instructions to match your remote control and motor. The Hall sensor connection ensures smooth and efficient motor startup and low-speed control.
- **Operating Environment:** While the motor has an IP67 waterproof rating, prolonged exposure to heavy rain or submersion is not recommended. Avoid operating in extremely dusty or sandy environments to prolong bearing life.
- **Temperature Monitoring:** The motor has a maximum temperature resistance of 120°C. If the motor feels excessively hot to the touch during operation, reduce load or allow it to cool down. Continuous overheating can lead to permanent damage.

## Maintenance

Regular maintenance helps ensure the longevity and optimal performance of your hub motor.

- **Cleaning:** Periodically wipe down the exterior of the motor with a damp cloth to remove dirt and grime. Do not use harsh chemicals or abrasive cleaners.
- **Bearing Inspection:** Check the wheel bearing periodically for smooth rotation. If you notice grinding sounds or excessive play, the bearing may need cleaning or replacement.
- **Wire Inspection:** Regularly inspect all wires and connectors for signs of wear, fraying, or corrosion. Repair or replace damaged wiring immediately.
- **Fastener Check:** Ensure all mounting screws and axle nuts remain tight. Loose fasteners can lead to instability and damage.
- **Storage:** When not in use for extended periods, store the motor in a dry, cool place away from direct sunlight and extreme temperatures.

## Troubleshooting

If you encounter issues with your JTLB hub motor, refer to the following common problems and solutions:

| Problem | Possible Cause | Solution |
|---|---|---|
| Motor does not spin or stutters. | Incorrect phase wire connection.<br>Disconnected or faulty Hall sensor wires.<br>Low battery voltage.<br>Faulty ESC. | Swap any two phase wires on the ESC.<br>Check Hall sensor wire connections; ensure they are secure.<br>Charge or replace battery.<br>Test with a known good ESC. |
| Motor lacks power or efficiency. | Incorrect ESC calibration.<br>Underpowered battery.<br>Excessive friction in bearings.<br>Overheating. | Recalibrate ESC.<br>Use a battery with higher discharge rate or capacity.<br>Clean or replace bearings.<br>Allow motor to cool; reduce load. |
| Unusual noise from motor. | Damaged bearing.<br>Loose components.<br>Debris inside motor. | Inspect and replace bearing if necessary.<br>Check all mounting points and fasteners.<br>Disassemble carefully to remove debris (if comfortable doing so). |

If the problem persists after attempting these solutions, consult with an experienced electric skateboard builder or contact JTLB customer support.

## SPECIFICATIONS

| Feature | Detail |
|---|---|
| Model Name | JTLBqxc401ymg6 |
| Power | 150W |
| Rated Voltage | 24V / 36V |
| No-load Speed | 1600 rpm |
| No-load Current | 0.3A |
| Maximum Current | 12A |
| Speed | 15-20 KM/h |
| Waterproof Rate | IP67 |
| Maximum Temperature Resistance | 120°C |
| Diameter | Approx. 70mm / 2.76inch |
| Height | Approx. 51.5mm / 2.03inch |
| Material | PU (Polyurethane) + Stainless Steel |
| Package Dimensions | 5.12 x 3.54 x 3.15 inches |
| Package Weight | 1.5 Pounds |

## Warranty and Support

Specific warranty information for the JTLB Brushless Hub Motor Wheel is not provided in this manual. Please refer to the product's purchase documentation or contact your retailer for warranty details.
For technical support or inquiries, please contact the manufacturer or your point of purchase. Provide your product model number (JTLBqxc401ymg6) and a detailed description of your issue for faster assistance.