TSDZ2 TSDZ2B

TSDZ2B 48V 500W Mid Drive Motor Ebike Conversion Kit User Manual

Model: TSDZ2B | Brand: TSDZ2

1. Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of your TSDZ2B 48V 500W Mid Drive Motor Ebike Conversion Kit. This kit is designed to transform a standard bicycle into an electric bike, offering pedal-assist and throttle functions for an enhanced riding experience. The TSDZ2B model features an updated design with two clutches on the main gear for improved riding feel and durability, along with enhanced waterproofing.

Image 1.1: Key features of the TSDZ2B motor, highlighting the torque sensor and compact design.

Image 1.2: An example of a bicycle converted with the TSDZ2B mid-drive motor kit.

2. Safety Information

- Always wear a helmet and appropriate safety gear when riding an ebike.
- Ensure all connections are secure and waterproof before riding, especially in wet conditions.
- Do not attempt to modify the motor or electrical components, as this may void the warranty and pose safety risks.
- Regularly inspect your ebike for loose parts, worn tires, and proper brake function.
- Be aware of local regulations regarding ebike usage, speed limits, and power output.
- Keep hands and clothing clear of moving parts, such as the chainring and motor.
- Disconnect the battery before performing any maintenance or installation procedures.

3. Package Contents

The TSDZ2B 48V 500W Mid Drive Motor Ebike Conversion Kit includes the following components:

- 48V 500W Mid Drive Motor
- VLCD5 Display Unit
- Speed Sensor
- Light Cable (for optional lights, lights not included)
- Cut-off Brake Levers

- Thumb Throttle
- Installation Tool
- Crank Arms
- Chainring

Image 3.1: Overview of the TSDZ2B 48V 500W Mid Drive Motor Ebike Conversion Kit components.

Image 3.2: All included components of the TSDZ2B kit, including the motor, display, brake levers, throttle, and cables.

4. Specifications

Feature	Detail
Motor Type	Mid Drive Motor
Voltage	48V
Wattage	500W
Model Name	TSDZ2B
Compatible Bottom Bracket	68-73mm (Standard JIS)
Motor Weight	3.6 kg (approx. 7.9 lbs)
Electric Assist Type	Pedal Assist (Torque Sensor), Throttle
Display Type	VLCD5
Compatible Bike Types	Mountain Bike (MTB), City Bike, Road Bike, Three Wheels Bike (with disc brake and chain drive system)

5. Setup and Installation

5.1 Compatibility Check

The TSDZ2B mid-drive motor is designed to fit bicycles with a 68-73mm (2.68-2.87 inch) wide bottom bracket. The inner diameter of the bottom bracket shell must be no less than 33.5mm. This motor cannot be installed on carbon fiber frames.

Image 5.1: Diagram illustrating bottom bracket compatibility requirements (68-73mm width, >33.5mm inner diameter).

Image 5.2: Ensure sufficient clearance for motor installation. Mechanical collision might occur at the blue circled position if not properly aligned.

Image 5.3: If needed, add 1-3 washers (1.5mm or 2.5mm) to achieve proper spacing and prevent mechanical collision.

5.2 Component Connection

Follow the wiring diagram to connect all components correctly. Ensure all connectors are fully seated and secured.

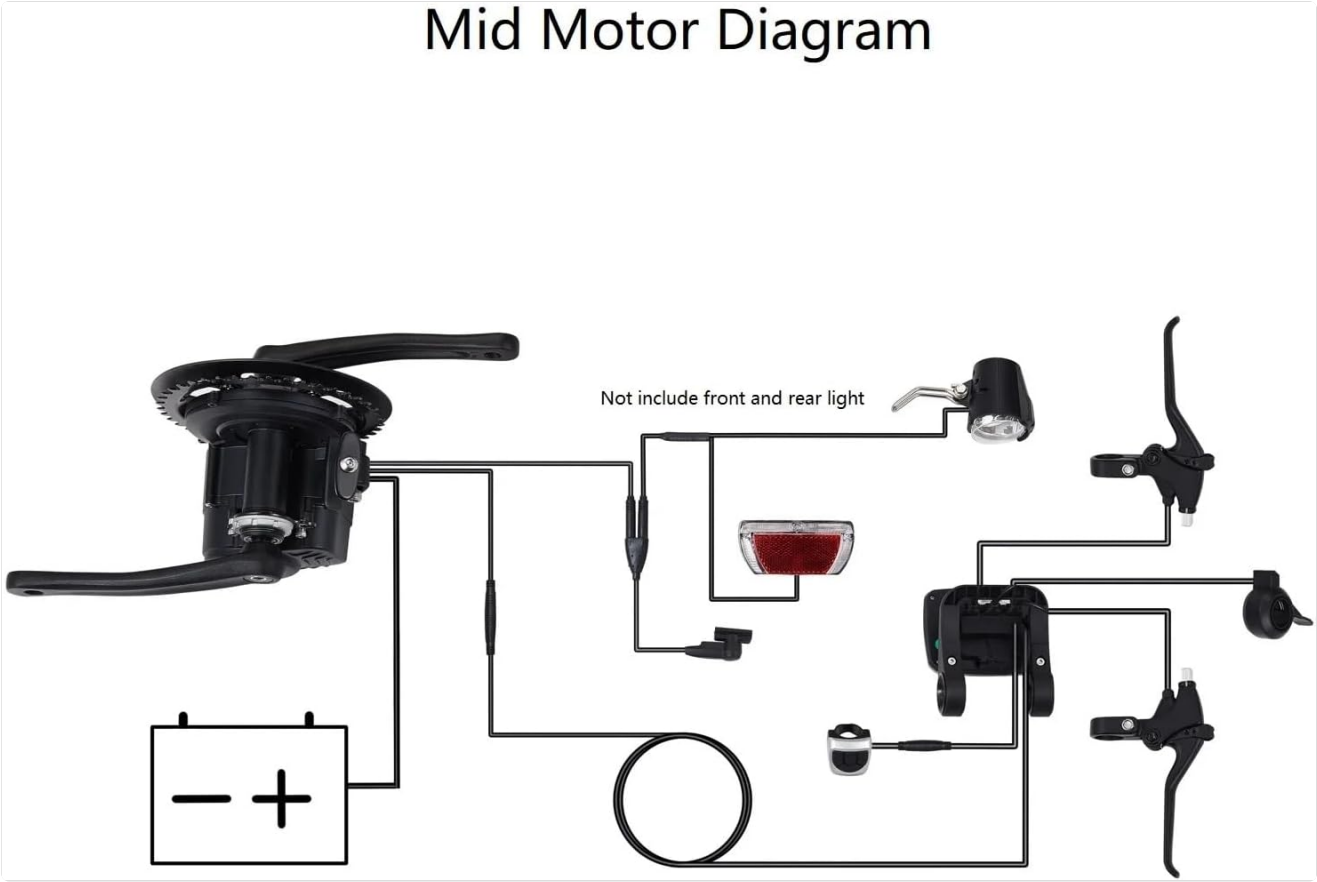

Image 5.4: Wiring diagram for the TSDZ2B mid-drive motor system, showing connections for the motor, display, speed sensor, brake levers, and throttle.

Image 5.5: During speed sensor installation, aim for the arrow position of the product to ensure a 10mm distance between the speed sensor and the magnet.

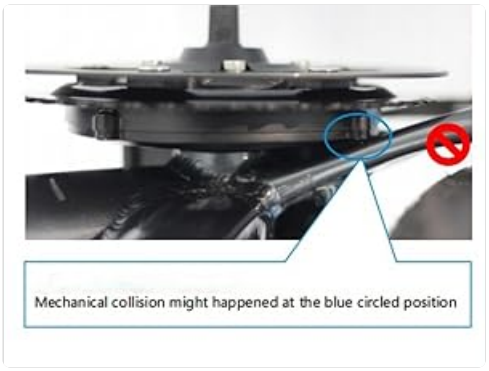

Image 5.6: The Y-cable allows for connection of optional lights (lights are not included in the kit).

5.3 VLCD5 Display Connection

Proper connection of the VLCD5 display is crucial for functionality. Ensure the slot is installed upward and white edges are not exposed.

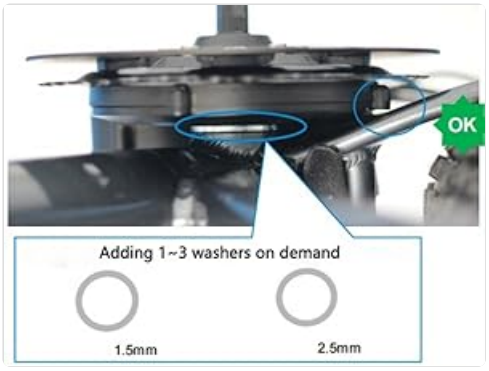

Image 5.7: Correct VLCD5 display connection with the slot upward and no white edges exposed.

Image 5.8: Incorrect VLCD5 display connection where white edges are exposed, indicating an improper fit.

Image 5.9: Rear view of the VLCD5 display showing connection ports.

5.4 Installation Videos

Refer to the following official videos for detailed installation guidance:

Your browser does not support the video tag.

Video 5.1: This video demonstrates the connection process for the Tongsheng TSDZ2B motor and VLCD5 display.

6. Operating Instructions

6.1 VLCD5 Display Overview

The VLCD5 display provides essential information and controls for your ebike system. It shows speed, battery level, power display, gear display, ODO/TRIP/AVG/TIME, and light indication.

Image 6.1: Detailed view of the VLCD5 display interface and its various indicators.

6.2 Power On/Off

To power on the system, press and hold the power button on the VLCD5 display. To power off, press and hold the power button again.

6.3 Pedal Assist System (PAS)

The torque sensor accurately detects your pedaling force and provides assistance accordingly. Use the '+' and '-' buttons on

the display to adjust the level of pedal assist (e.g., ECO, TOUR, SPEED, TURBO). Higher levels provide more motor assistance.

6.4 Throttle Function

The thumb throttle provides on-demand power without pedaling. Gently press the throttle to engage the motor. Release the throttle to disengage. The throttle can be used independently or in conjunction with the pedal assist system.

6.5 Brake Cut-off Function

The included brake levers are equipped with a cut-off switch. When either brake lever is engaged, the motor power will immediately cut off, ensuring safe braking.

6.6 Removing Speed Limit (VLCD5 Display)

The following video demonstrates how to adjust or remove the speed limit setting on the VLCD5 display. Please be aware of and comply with all local laws and regulations regarding ebike speed limits.

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Video 6.2: This video provides instructions on how to remove the speed limit on the VLCD5 display.

7. Maintenance

- **Cleaning:** Use a damp cloth to wipe down the motor, display, and other components. Do not use high-pressure water jets directly on electrical parts.
- **Connections:** Periodically check all electrical connections for tightness and corrosion.
- **Lubrication:** Keep your bike's chain and gears lubricated as per standard bicycle maintenance.
- **Fasteners:** Ensure all bolts and fasteners on the motor and cranks are securely tightened before each ride.
- **Storage:** Store the ebike in a dry place, away from extreme temperatures. If storing for extended periods, ensure the battery (not included) is charged to an appropriate level as per its manufacturer's recommendations.

8. Troubleshooting

Problem	Possible Cause	Solution
Motor not assisting / No power	Battery not connected or low charge; Loose electrical connections; Display off; Brake levers engaged.	Check battery connection and charge; Inspect all cables; Turn on display; Ensure brake levers are not engaged.
Display not turning on	Loose power cable to display; Battery issue.	Check display cable connection; Verify battery is charged and connected.
Inconsistent pedal assist	Torque sensor issue; Loose crank arms.	Ensure crank arms are tightened; Consult professional if torque sensor is suspected.
Speed sensor error	Magnet misaligned or missing; Sensor cable damaged.	Check magnet position and distance (10mm); Inspect sensor cable for damage.

If you encounter issues not listed here or if solutions do not resolve the problem, please contact customer support.

9. Warranty and Support

The TSDZ2B Mid Drive Motor Ebike Conversion Kit comes with a**1-year warranty** from the date of purchase. This warranty covers manufacturing defects and material faults under normal use conditions.
The warranty does not cover damage resulting from:

- Improper installation or assembly.
- Misuse, neglect, or accident.
- Unauthorized modifications or repairs.
- Normal wear and tear.

For warranty claims or technical support, please refer to the contact information provided by your retailer or the manufacturer's official website.