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BAFANG US JJ DZ Mid Drive Kit DZ40 Display

BAFANG Mid Drive E-Bike Conversion Kit User Manual

Model: US JJ DZ Mid Drive Kit DZ40 Display

Brand: BAFANG

INTRODUCTION

This user manual provides comprehensive instructions for the installation, operation, and maintenance of your BAFANG Mid Drive E-Bike Conversion Kit. Designed for enthusiasts looking to electrify their bicycles, this kit offers powerful performance and versatile compatibility. Please read this manual thoroughly before installation and use to ensure safe and optimal performance.

SAFETY INFORMATION

- Always wear a helmet and appropriate safety gear when riding an e-bike.
- Ensure all components are securely fastened before each ride.
- Do not operate the kit in wet conditions unless specifically designed for it.
- Familiarize yourself with local e-bike regulations and laws.
- Keep hands and clothing clear of moving parts.
- Disconnect the battery before performing any maintenance or adjustments.
- Store the battery in a cool, dry place away from direct sunlight and extreme temperatures.

PACKAGE CONTENTS

Your BAFANG Mid Drive Kit includes the following components:

PACKING LIST AND INSTALLATION



Image: Comprehensive Package Contents for BAFANG Mid Drive Kit.

- BAFANG Mid Drive Motor (500W, 750W, or 1000W depending on model)
- VD03 Ebike Display (upgradeable options available)
- Sprocket (Chainwheel)
- Dual Hall Speed Sensor and Magnet
- Mechanical Brake Lever or Brake Sensor (default is mechanical lever)
- Crank Arms
- 1T4 EB-BUS Cable
- Thumb Throttle
- Locking Nuts
- Installation Tool (Wrench, Crank Removal Tool, BB Removal Tool)
- Headlight
- Instruction Manual
- Optional: Battery and Charger (if selected)

Please verify all components are present and undamaged upon unboxing. If any component is missing, contact customer support.

immediately.

COMPATIBILITY

The BAFANG Mid Drive Kit is designed for broad compatibility with various bicycle frames. Ensure your bike meets the following criteria:

- **Bottom Bracket Length:** Compatible with 68-73mm, 100mm, and 120mm bottom brackets.
- **Internal Diameter:** 33.5-36mm.
- **Frame Type:** Ideal for mountain, road, and commuter bikes.
- **Incompatibility:** Not suitable for carbon fiber frames or bikes with coaster brakes.

IS THIS MOTOR COMPATIBLE WITH MY BIKE?

BBS01/BBS02 Motor

Diagram of the BBS01/BBS02 Motor showing dimensions: height 215mm, width 175/190mm, and depth 68mm (internal diameter) and 12mm (bottom bracket length).

BBSHD Motor

Diagram of the BBSHD Motor showing dimensions: height 215mm, width 175/190/210mm, and depth 68mm (internal diameter) and 12mm (bottom bracket length).

FITS FOR

Bottom Bracket Size

Close-up diagram of a bottom bracket showing internal diameter $\Phi 33.5mm/24TPI$ and bottom bracket sizes BB68/100/120mm.

- BB 68mm, Compatible for 68-73mm bottom bracket.
- BB 100mm, Compatible for 85-105mm bottom bracket.
- BB 120mm, Compatible for 105-125mm bottom bracket.
- **IF NOT EXACT 68mm/100mm/120mm, PLEASE CONTACT US FOR EXTRA SCREWS AND WASHERS.**

Belt Drive Chainring

Coaster Bike

Carbon Fiber Bike

Image: Visual guide for checking bike frame compatibility with the BAFANG Mid Drive Motor.

For precise compatibility, measure your bike's bottom bracket dimensions. If your bottom bracket length is not exactly 100mm or 120mm, please contact us for extra screws and washers.

SPECIFICATIONS

Motor Specifications

The BAFANG Mid Drive Motor is available in various power outputs:

- **500W:** 100 N.m torque, 4.2KG weight, 38-45 KM/H max speed.
- **750W:** 120 N.m torque, 4.3KG weight, 45-55 KM/H max speed.
- **1000W:** 160 N.m torque, 5.8KG weight, 50-60 KM/H max speed.

MOTOR SPECIFICATION

| | | | |
|-------------------------------|-------------------------------|---------------------------|---------------------------------|
| • RATED POWER: 500W | • MAX TORQUE: 100Nm | • WEIGHT: 4.2KG | • MAX SPEED 38-45KM/H |
| • RATED POWER: 750W | • MAX TORQUE: 120Nm | • WEIGHT: 4.3KG | • MAX SPEED 45-55KM/H |



| | | |
|-----------------------------------|-----------------------|----------------------------|
| Front Lamp 250mm | Rear Lamp 250mm | Battery 500mm |
| 1T4 450mm | Speed Sensor 350mm | Gear Shift Sensor 250mm |
| Battery communication 500mm | | |



| | | | | |
|-----------------------------------|--------------------------------|-------------------------------|---------------------------|---------------------------------|
| Front Lamp 250mm | • RATED POWER: 1000W | • MAX TORQUE: 160Nm | • WEIGHT: 5.8KG | • MAX SPEED 50-60KM/H |
| Rear Lamp 250mm | | | | |
| Battery 500mm | | | | |
| 1T4 500mm | | | | |
| Speed Sensor 400mm | | | | |
| Gear Shift Sensor 250mm | | | | |
| Battery communication 500mm | | | | |

Image: Detailed specifications for 500W, 750W, and 1000W BAFANG Mid Drive Motors.

Chainring Options

Various chainring options are available to suit different riding needs:

- **BBS Chainring (for 500W/750W):** 36T, 42T, 44T, 52T.
- **BBS-HD Chainring (Only for 1000W):** One piece 46T.

OPTIONAL CHAINRING

BBS Chainring (for 500W/750W)

36T

0.5mm



$\Phi 5.94"$ (15.1cm)

≤ 8 -speed

36T chainring fits ≤ 8 -speed bikes only—risk of chain drop on higher gears.

42T

18.5mm



$\Phi 7.04"$ (17.9cm)

≥ 9 -speed

Risk of 42T chainring hitting rear fork—measure dimensions carefully before ordering.

44T

6.5mm



$\Phi 7.16"$ (18.2cm)

≤ 9 -speed

52T

6.5mm



$\Phi 8.46"$ (21.5cm)

≤ 9 -speed

BBS-HD Chainring (Only for 1000W)

One piece 46T

16.5mm



$\Phi 7.36"$ (18.7cm)

≥ 9 -speed

Image: Diagram showing various chainring sizes and their compatibility.

Display Options

Personalize your e-bike experience with a range of advanced displays:

- VD03 display (included in package)
- Optional upgrades: P860ML, EKD01, VD618, VD61, DPC010, DPC080.
- BAFANG's DPC010 & DPC080 displays allow motor parameter modification via display or BAFANG GO+ APP.

UART

| Display | • 500C | • DZ40 | • EKD01 | • DPC18(0-9) | • P860ML | • SW2-M58 |
|--------------------|--------------------|-----------------|--------------------|-----------------------|-----------------------|-----------------------|
| Screen | 2.2 inch | 1.9inch | 2.4 inch | 3.5 inch | 3.5 inch | 3.8 inch |
| Battery Indicator | Voltage/Percentage | Percentage | Voltage/Percentage | Voltage/Percentage | Voltage/Percentage | Voltage/Percentage |
| Holder (mm) | 22.2mm | 22.2mm | 22.2mm/25.4mm | 22.2mm/25.4mm /31.8mm | 22.2mm/25.4mm /31.8mm | 22.2mm/25.4mm /31.8mm |
| Speed Limit | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Compatible Voltage | 24V/36V/48V/52V | 24V/36V/48V/52V | 24V/36V/48V/52V | 36V/43V/48V | 24V/36V/48V/52V | 24V/36V/48V/52V |
| Light Sensation | ✗ | ✗ | ✗ | ✓ | ✓ | ✗ |
| PAS Level | 3 / 5 / 9 | 5 | 3 / 5 / 9 | 3 / 5 / 9 | 3 / 5 / 9 | 3 / 5 / 9 |
| USB Port | ✗ | ✗ | ✓ | ✓ | ✓ | ✗ |

CAN

| Display | • DPC010 | • DPC080 | • VD618 | • VD61 | • VD03 | • P860ML |
|--------------------|---------------------|-------------|---------------------|---------------------|-------------------------|--------------------|
| Screen | 4 inch | 1.9 inch | 3.5 inch | 3.5 inch | 1.5 inch | 3.5 inch |
| Battery Indicator | Voltage/Percentage | Percentage | Voltage/Percentage | Voltage/Percentage | / | Voltage/Percentage |
| Holder (mm) | 22.2mm | 22.2mm | 22.2mm | 22.2mm | 22.2mm | 22.2mm |
| Speed Limit | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Compatible Voltage | 36V/48V/52V/60V/72V | 36V/48V/52V | 36V/48V/52V/60V/72V | 36V/48V/52V/60V/72V | 12V/24V/36V/48V/52V/60V | 24V~70V |
| Light Sensation | ✓ | ✓ | ✓ | ✓ | ✗ | ✓ |
| PAS Level | 3 / 5 | 5 | 3 / 5 / 9 | 3 / 5 / 9 | 3 / 5 / 9 | 3 / 5 / 9 |
| USB Port | ✓ | ✓ | ✓ | ✓ | ✗ | ✓ |

Image: Comparison table of various UART and CAN protocol displays, detailing screen size, battery indicator, speed limit, compatible voltage, light sensation, PAS level, and USB port availability.

Battery Parameters (Optional)

The BAFANG CAN bus BBS02B mid motor is compatible with various 48V and 52V electric bike batteries:

- 48V: 13Ah, 17.5Ah, 19.2Ah, 20Ah options.
- 52V: 20Ah option.
- Motor is equipped with a male XT60 connector. Ensure your battery connector is compatible.

BATTERY PARAMETERS

| | | | |
|--|---|---|------------------|
| • 48V 13Ah Shark Battery • 48V 17.5Ah | | • 48V 19.2Ah Shark Battery • 48V 20Ah | |
|  | |  | |
| Type | 48V 13Ah | 48V 17.5Ah | 48V 19.2Ah |
| Watt Hour | 624Wh | 840Wh | 921.6Wh |
| Battery Cell | 18650 2600mAh | L-G 18650 3500mAh | LG 21700 4800mAh |
| BMS | 30A | 30A | 30A |
| Charge voltage | 54.6V | 54.6V | 54.6V |
| Size (L*W*H) | 365*90*110mm | 365*90*110mm | 365*90*127mm |
| Weight | 4.25kg | 4.25kg | 5.0kg |
| USB Port | ✓ | ✓ | ✓ |
| Cycle Life | 1000 times | | |
| Protection Function | Over charge, Over discharge, Over current, Short circuit, Balance | | |
| • 52V 20Ah Shark Battery | | • 48V 20Ah VoltzX Battery | |
|  | |  | |
| Type | 52V 20Ah | 48V 20Ah | 48V 17.5Ah |
| Watt Hour | 1040Wh | 960Wh | 840Wh |
| Battery Cell | Sam-sung 21700 5000mAh | Sam-sung 21700 5000mAh | 18650 2500mAh |
| BMS | 30A | 35A | 30A |
| Charge voltage | 58.8V | 54.6V | 54.6V |
| Size (L*W*H) | 368*95*125mm | 365*105*140mm | 476*162*89mm |
| Weight | 5.15kg | 5.2kg | 7.23kg |
| USB Port | ✗ | ✓ USB & Type-C Fast Charge | ✓ |
| Cycle Life | 1000 times | | |
| Protection Function | Over charge, Over discharge, Over current, Short circuit, Balance | | |

Image: Detailed specifications and dimensions for various 48V and 52V battery options.

INSTALLATION GUIDE

This section outlines the steps for installing your BAFANG Mid Drive Kit. While the process is designed to be straightforward, professional installation is recommended if you are unsure about any steps.

Your browser does not support the video tag.

Video: BAFANG BBS Mid Drive Motor for eBike - Installation Video. This video provides a visual guide for the installation process, including crankset removal, motor installation, and component setup.

1. Removing the Crankset

Begin by removing the existing crankset from your bicycle. This typically involves:

1. Remove the left crank arm using a crank arm puller.
2. Remove the chainwheel from the drive side.
3. Use a bottom bracket extractor tool to remove the bottom bracket.

4. Clean the bottom bracket shell thoroughly, applying a layer of lubricant to remove any dirt or debris.

2. Mid-Drive Motor Installation

Install the BAFANG Mid Drive Motor into the bottom bracket shell:

1. Attach the appropriate chainwheel (e.g., 44-tooth) to the BAFANG motor. Ensure M6 bolts are tightened securely.
2. Carefully push the motor into the bottom bracket shell from the drive side.
3. Secure the motor using the Y-shaped motor mount bracket on the left-hand side of the bike. Tighten the M6 bolts with a 5mm Allen wrench.
4. Install the grey lock nut with the flat side facing the bike. The indicator arrow should go clockwise. Tighten with the provided wrench.
5. Install and tighten the outer black lock nut with the same wrench.

3. Speed Sensor Installation

Install the speed sensor to ensure accurate speed readings:

- Attach the speed sensor to the chainstay near the rear wheel.
- Secure the magnet to a spoke on the rear wheel.
- Adjust the position of the sensor and magnet so that the sensor's LED indicator blinks when the magnet passes by, indicating proper detection. Maintain a distance of 5-8mm between the speed sensor and the magnet.

4. Display and Controls Mount

Mount the display, thumb throttle, and brake levers on the handlebar:

- Mount the VD03 display in a central, easily viewable position on the handlebar.
- Install the thumb throttle on one side of the handlebar (typically right).
- Install the brake levers. The kit includes mechanical brake levers with motor inhibitors. These levers cut off motor power when engaged, enhancing safety. If you have hydraulic brakes, consider using the optional brake sensors.

5. Cable Management

Connect all components using the provided cables and organize them neatly:

- Connect the motor to the battery, display, speed sensor, and brake levers using the 1T4 EB-BUS cable.
- Use the provided zip ties to secure cables along the bike frame, ensuring they do not interfere with moving parts or steering.

EASY TO INSTALL

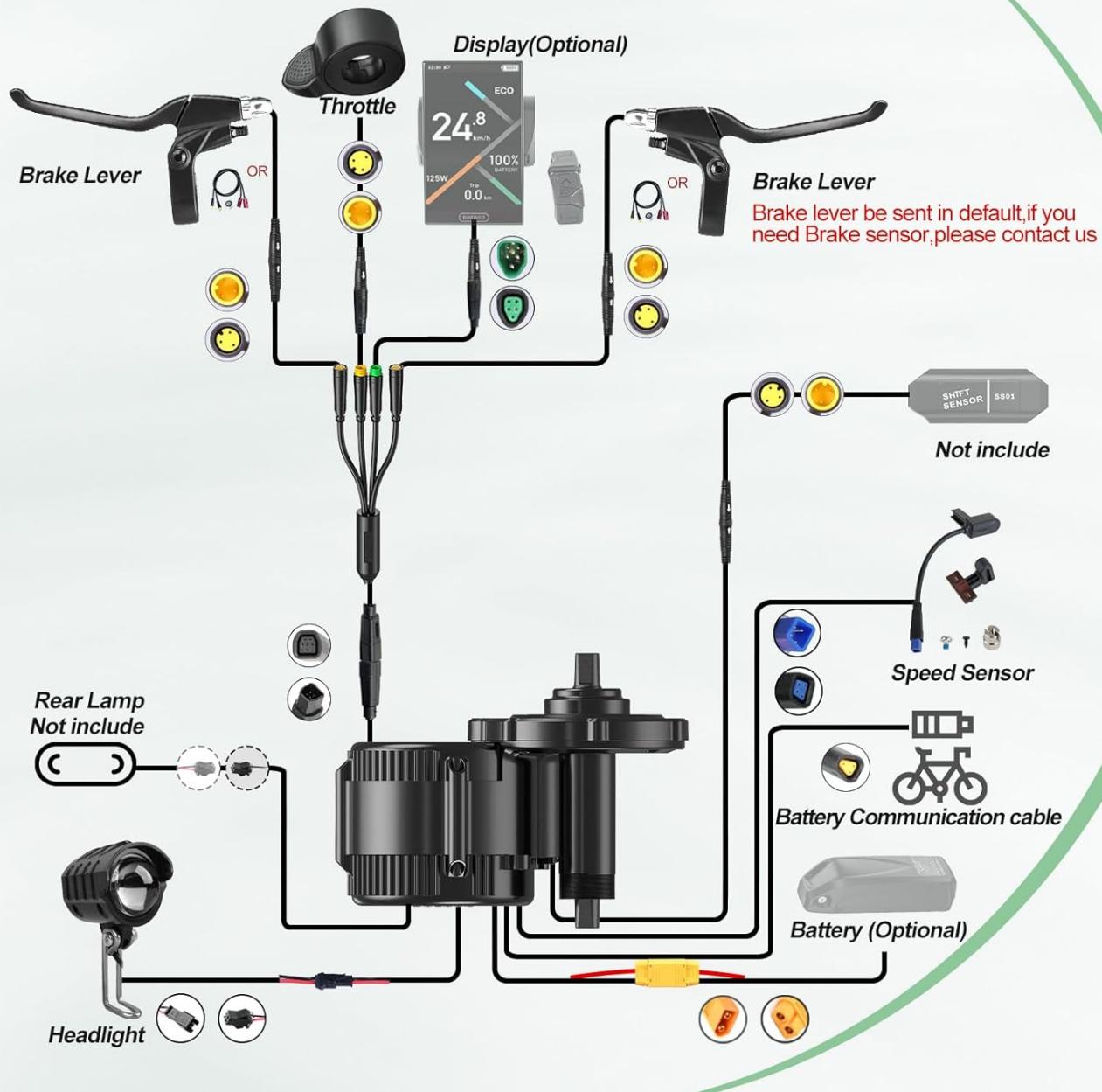


Image: Wiring diagram for BAFANG Mid Drive Kit components.

6. Headlight Installation

Install the provided LED headlight for improved visibility:

- Mount the headlight securely on the front of your bike, typically on the handlebars or fork.
- Connect the headlight cable to the designated port on the motor or 1T4 cable.

OPERATING INSTRUCTIONS

Once installed, operating your BAFANG e-bike is simple:

1. **Power On:** Press and hold the power button on the display unit to turn on the system.
2. **Display Functions:** The display shows speed, battery level, pedal assist level (PAS), and other ride data. Use the buttons on the display to cycle through information and adjust settings.
3. **Pedal Assist Levels (PAS):** Select your desired level of motor assistance (e.g., 1-9). Higher levels provide more power.
4. **Throttle:** Use the thumb throttle for instant power, independent of pedaling.

5. **Power Off:** Press and hold the power button to turn off the system.

MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your BAFANG Mid Drive Kit:

- Battery Care:** Charge the battery regularly, even when not in use. Avoid fully discharging the battery. Store in a cool, dry place.
- Motor Inspection:** Periodically check the motor mounting bolts for tightness. Ensure no cables are pinched or damaged.
- Chain and Drivetrain:** Keep the chain clean and lubricated. Inspect the chainring for wear.
- Brakes:** Regularly check brake pads and cables (or hydraulic fluid) for wear and proper function. Ensure motor inhibitors are working correctly.
- Cables and Connectors:** Inspect all electrical connections for corrosion or damage. Ensure cables are securely routed and zip-tied.
- General Cleaning:** Clean the motor and other components with a damp cloth. Avoid high-pressure washing directly on electrical components.

TROUBLESHOOTING

Here are some common issues and their potential solutions:

| Problem | Possible Cause | Solution |
|-----------------------------|--|--|
| Motor not engaging/no power | Battery low/disconnected, loose cable, brake lever engaged, display off. | Check battery charge, ensure all connections are secure, release brake levers, turn on display. |
| Inaccurate speed reading | Speed sensor/magnet misaligned or damaged. | Adjust sensor and magnet position (5-8mm gap), check for damage. |
| Display not turning on | Loose power cable, faulty display. | Check power connections to display, contact support if issue persists. |
| Unusual noises from motor | Loose motor mounting, debris in motor, worn gears. | Check motor mounting bolts, inspect for foreign objects, contact professional for internal inspection. |

WARRANTY AND SUPPORT

Your BAFANG Mid Drive Kit comes with a comprehensive warranty:

- Warranty Period:** 30 days return, 365 days repair or replace.
- Manufacturer:** Bafang Electric (Suzhou) Co., Ltd.

For technical support, warranty claims, or any questions regarding your product, please contact the seller or BAFANG customer service. Provide your product model number and purchase details for faster assistance.

