

BAFANG US JJ G020 Rear Hub 500W/750W DZ

BAFANG 48V 500W/750W Rear Hub Motor Kit User Manual

Comprehensive guide for installation, operation, and maintenance.

PRODUCT OVERVIEW

The BAFANG 48V 500W/750W Rear Hub Motor Kit is designed to convert standard bicycles into electric bikes, offering enhanced performance and versatility. This kit provides powerful assistance for various riding conditions, from mountain trails to city commutes. It features a robust brushless gear motor, compatible with multiple wheel sizes, and includes essential components for a complete conversion.

Key Features:

- Powerful Performance:** 48V 500W/750W motor with 65/80N.m max torque and top speeds of 40/45KM/H.
- Quiet Operation:** Noise grade less than 55 dB.
- Durable Design:** Waterproof (IPX5) and efficient ($\geq 80\%$).
- Universal Compatibility:** Fits bikes with 135-142mm rear dropouts, supporting disc and V-brakes.
- Intelligent PAS System:** Offers 4 riding modes for reduced fatigue.



Figure 1: Overview of the BAFANG 48V 500W/750W Rear Hub Motor Kit, showing the hub motor, display, battery (optional), controller, brake levers, thumb throttle, PAS sensors, motor extension cable, 1T4 cable, and headlight.

PACKAGE CONTENTS

Verify that all components listed below are included in your package:

- BAFANG 48V 500W/750W Rear Hub Motor with Rim & Spokes
- LCD Display (Optional)
- Battery (Optional)
- Controller
- Controller Box
- Brake Levers / Brake Sensors (Note: If using original hydraulic brakes or integrated shifter/brake levers, brake sensors are required. Contact support if needed.)
- Thumb Throttle
- Left PAS Sensor & Right Big PAS Sensor

- Motor Extension Cable
- 1T4 Cable
- Headlight

COMPATIBILITY AND SPECIFICATIONS

Ensure your bicycle meets the following compatibility requirements for optimal performance and safe installation.

WHETHER IT CAN FIT WITH MY BIKE?

40KM
Max Speed

65N.m
Max Torque

IPX5
Water Proof

75%
Efficiency

25°
Angle

390±15
N0(RPM)



- Fit the cassette less than 11 speed



Figure 2: Compatibility check for your bike, highlighting the required rear dropout width of 135-142mm and compatibility with both mechanical disc brakes and V-brakes. The motor is designed for cassette wheels (less than 11 speed).

- **Rear Dropout (OLD):** Your bike's rear dropout should be 135-142mm.
- **Brake System:** Compatible with both disc brakes and V-brakes.
- **Gear Shift:** Designed for cassette wheels (not freewheel).

Wheel Diameter Information

SIZE INFORMATION



20"



Diameter:425mm(16.7")
Spocks:12g 36pcs
Compatible:1.5"-2.4" Tire

425mm



26"



Diameter:570mm(22.4")
Spocks:12g 36pcs
Compatible:1.5"-2.4" Tire

570mm



27.5"



Diameter:595mm(23.4")
Spocks:12g 36pcs
Compatible:1.5"-2.4" Tire

595mm



700C



Diameter: 640mm(25")
Spocks:12g 36pcs
Compatible: 32C-50C Width

640mm

Figure 3: Detailed size information for compatible wheel diameters: 20", 26", 27.5", and 700C (29er compatible), including diameter in mm and inches, spoke count, and compatible tire sizes.

Table 1: Wheel Diameter Specifications

Wheel Size	Diameter (mm/inch)	Spokes	Compatible Tire
20"	425mm (16.7")	12g 36pcs	1.5"-2.4" Tire
26"	570mm (22.4")	12g 36pcs	1.5"-2.4" Tire
27.5"	595mm (23.4")	12g 36pcs	1.5"-2.4" Tire
700C (29er)	640mm (25")	12g 36pcs	32C-50C Width

General Specifications

- Rated Voltage:** 48V
- Rated Power:** 500W/750W
- Max Torque:** 65 N.m (500W) / 80 N.m (750W)

- **Position:** Rear Cassette Wheel
- **Construction:** Brushless Gear Motor
- **Efficiency:** ≥80%
- **Noise Grade:** 55 dB
- **Operating Temperature:** -20-45 °C
- **Model Number:** US JJ G020 Rear Hub 500W/750W DZ

SETUP AND INSTALLATION

This section provides a general guide for installing your BAFANG Rear Hub Motor Kit. For detailed, step-by-step instructions, refer to the included installation manual or online video tutorials provided by BAFANG.

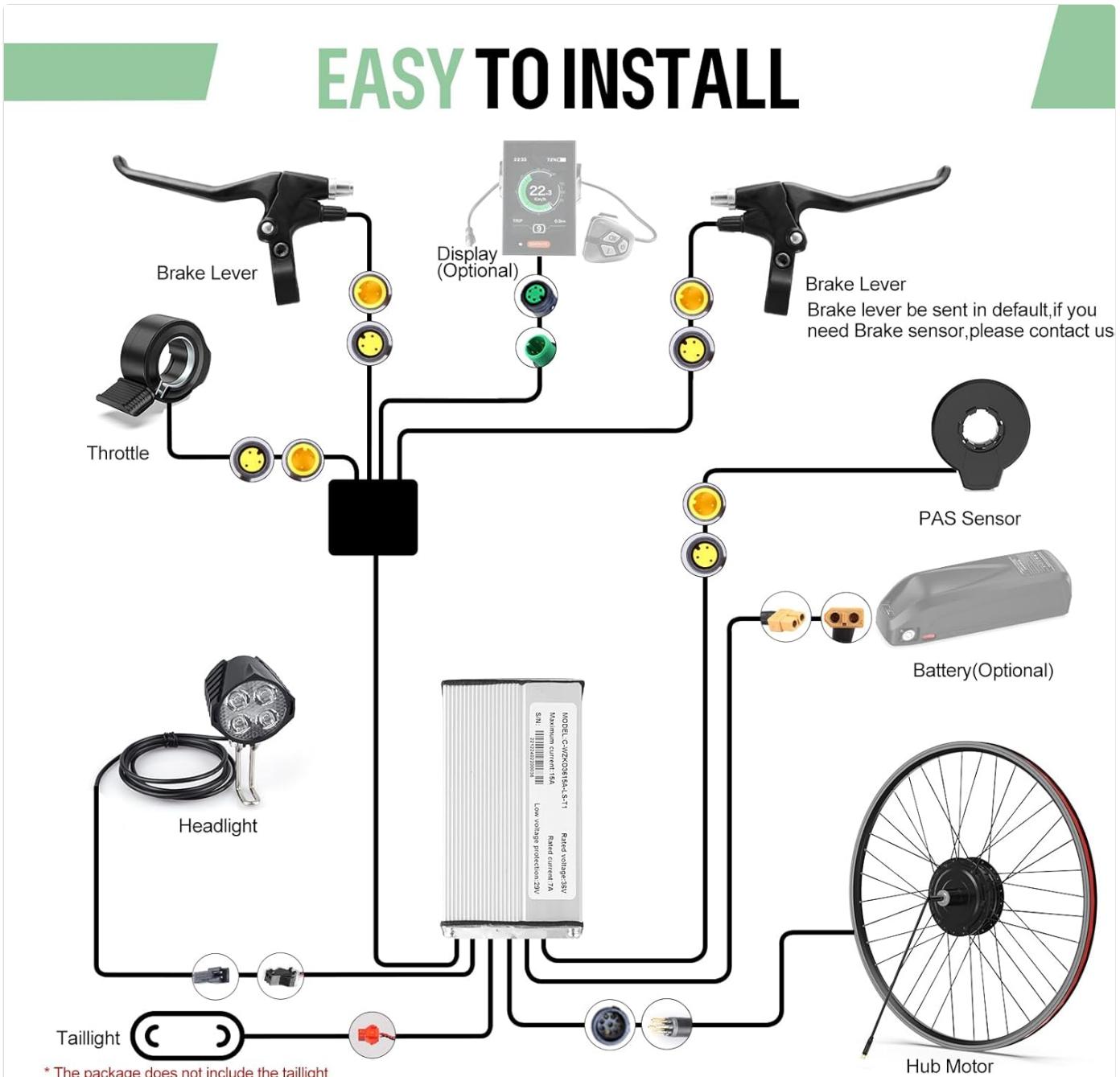


Figure 4: Wiring diagram illustrating the connections between the hub motor, controller, battery, display, brake levers, throttle, PAS sensor, headlight, and optional taillight. This visual guide helps in understanding the electrical connections.

EVERYTHING YOU NEED TO WAKE UP YOUR BIKE/TRIKE

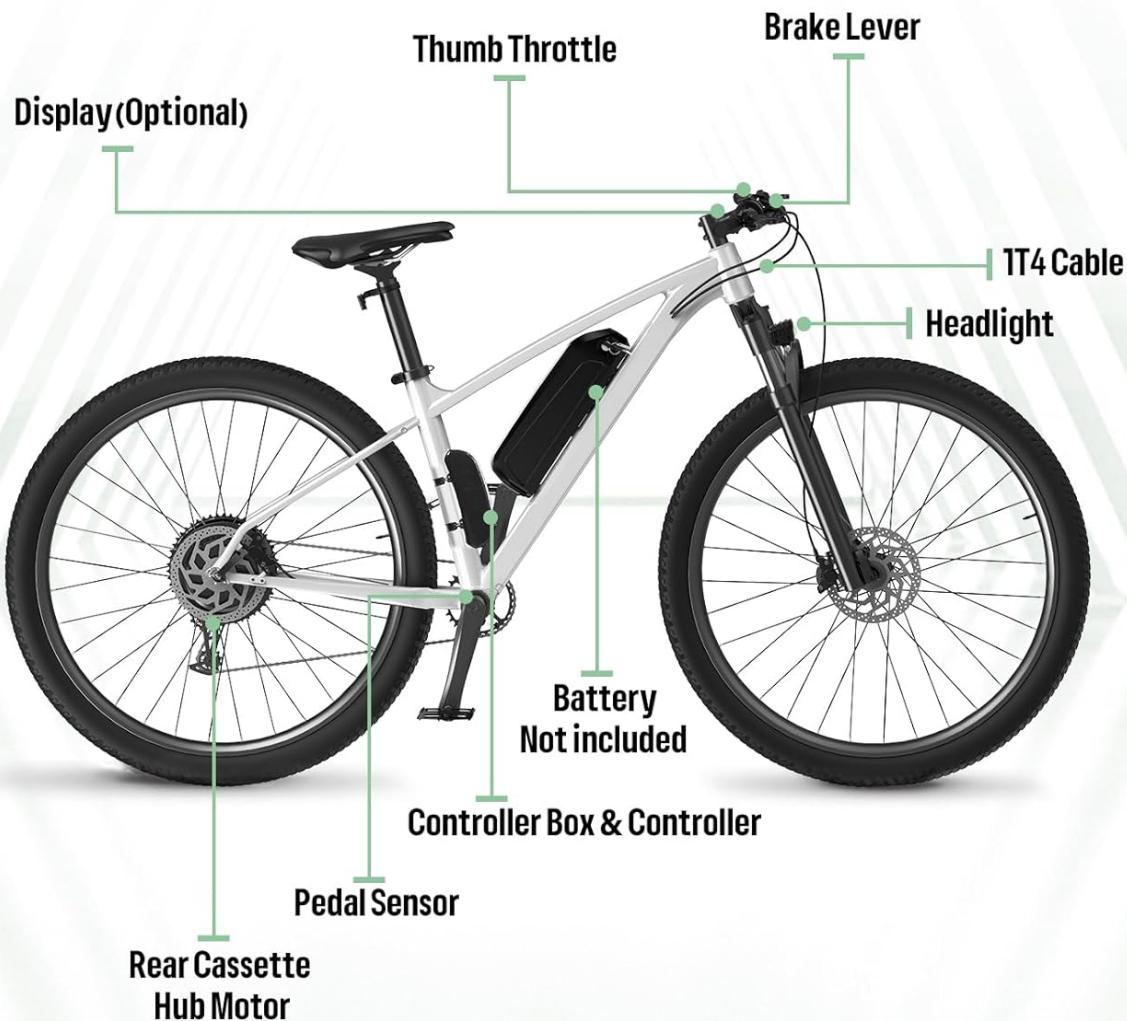


Figure 5: Diagram showing the placement of the BAFANG e-bike conversion kit components on a bicycle, including the rear cassette hub motor, pedal sensor, controller box, controller, battery (not included in this diagram), thumb throttle, brake lever, 1T4 cable, and headlight.

- 1. Prepare Your Bike:** Ensure your bike's rear dropout is within the 135-142mm range. Remove the existing rear wheel.
- 2. Install the Hub Motor:** Mount the BAFANG rear hub motor wheel into your bike's rear dropouts. Secure it properly.
- 3. Mount the Controller and Controller Box:** Find a suitable location on your bike frame for the controller and its protective box. Secure them firmly.
- 4. Install PAS Sensors:** Attach the Left PAS Sensor and Right Big PAS Sensor to your bike's bottom bracket area. Ensure they are correctly aligned with the crank arm.
- 5. Install Thumb Throttle and Brake Levers/Sensors:** Mount the thumb throttle on the handlebar. Replace your existing brake levers with the provided ones, or install brake sensors if retaining your original hydraulic brakes.
- 6. Install Display (Optional):** Mount your chosen LCD display on the handlebar.
- 7. Connect Wiring:** Follow the wiring diagram (Figure 4) to connect all components using the provided cables, including the motor extension cable and 1T4 cable. Ensure all connections are secure and waterproof.

8. **Install Headlight:** Mount the headlight and connect it to the system.
9. **Install Battery (Optional):** If you have purchased a battery, mount it securely on your bike frame and connect it to the controller.
10. **Final Checks:** Double-check all connections, ensure cables are neatly routed and secured, and verify that all components are firmly mounted.

For visual assistance, please refer to the official installation video:

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Video 1: BAFANG Hub Motor Kit E-bike Conversion Kit Installation Guide. This video demonstrates the assembly and installation process of the BAFANG hub motor kit, showcasing how various components integrate with a bicycle frame to create an electric bike.

OPERATING INSTRUCTIONS

Once installed, operating your BAFANG e-bike conversion kit is straightforward. Familiarize yourself with the display and control functions.

Display Options and Functions

EKD01 Bluetooth Display



Screen:2.4" TFT	Speed Limit: ✓
Handlebar Diameter:22.2mm / 25.4mm	Battery Voltage: ✓
Operating Voltage:24V/36V/48V/52V	Battery Percentage: ✓
USB Port: ✓ Type C	Bluetooth: ✓
Language:English,French,German,Spanish, Italian,Polish,Dutch,Czech	Boot Password: ✓
	Light Sensor: ✗

DPC18 Display



Screen:3.5" TFT	Speed Limit: ✓
Handlebar Diameter(mm):22.2/ 25.4/ 31.8	Battery Voltage: ✓
Operating Voltage:24V/36V/48V	USB Port: ✓
Language:English	Bluetooth: ✗
	Boot Password: ✓
	Battery Percentage: ✓

Speed Limit: ✓	Bluetooth: ✗
Battery Voltage: ✓	Boot Password: ✓
Battery Percentage: ✓	Battery Percentage: ✓



P860C Display

Screen:3.5" IPS	Speed Limit: ✓
Handlebar Diameter(mm):22.2/ 25.4/ 31.8	Battery Voltage: ✓
Operating Voltage:24V/36V/48V/52V	USB Port: ✓
Language:English,French,German, Spanish,Italian,Czech	Bluetooth: ✗
	Boot Password: ✓
	Light Sensor: ✓

Speed Limit: ✓	Bluetooth: ✗
Battery Voltage: ✓	Boot Password: ✓
Battery Percentage: ✓	Battery Percentage: ✓

DZ40 Display



Screen:1.68" IPS	Speed Limit: ✓
Handlebar Diameter(mm):22.2	Battery Voltage: ✗
Operating Voltage:24V/36V/48V/52V	USB Port: ✗
Language:English	Bluetooth: ✗
	Boot Password: ✗
	Battery Percentage: ✓

Speed Limit: ✓	Bluetooth: ✗
Battery Voltage: ✗	Boot Password: ✗
Battery Percentage: ✓	Battery Percentage: ✓



DM03 Display

Screen:1.3" OLED	Speed Limit: ✓
Handlebar Diameter(mm):22.2	Battery Voltage: ✓
Operating Voltage:24V/36V/48V/52V	USB Port: ✗
Language:English	Bluetooth: ✗
	Boot Password: ✓
	Light Sensor: ✗

Speed Limit: ✓	Bluetooth: ✗
Battery Voltage: ✓	Battery Percentage: ✓
Battery Percentage: ✓	Battery Percentage: ✓

500C Display



Screen:2.2" IPS	Speed Limit: ✓
Handlebar Diameter(mm):22.2	Battery Voltage: ✓
Operating Voltage:24V/36V/48V/52V	USB Port: ✗
Language:English	Bluetooth: ✗
	Boot Password: ✓
	Battery Percentage: ✗

Speed Limit: ✓	Bluetooth: ✗
Battery Voltage: ✓	Boot Password: ✓
Battery Percentage: ✗	Battery Percentage: ✗



800S Display

Screen:2.8" LCD	Speed Limit: ✓
Handlebar Diameter(mm):22.2/ 25.4/ 31.8	Battery Voltage: ✗
Operating Voltage:24V/36V/48V/52V	USB Port: ✗
Language:English	Bluetooth: ✗
	Boot Password: ✗
	Light Sensor: ✗

Speed Limit: ✓	Bluetooth: ✗
Battery Voltage: ✗	Battery Percentage: ✗
Battery Percentage: ✗	Battery Percentage: ✗

Figure 6: Comparison of different BAFANG display options (EKD01, DPC18, P860C, DZ40, DM03, 500C, 800S), highlighting their screen type, handlebar diameter compatibility, operating voltage, USB port availability, Bluetooth connectivity, boot password feature, and light sensor.

The kit supports various display options, allowing you to monitor key riding data:

- Speed Monitoring:** View current speed, average speed, and max speed.
- Battery Level:** Monitor remaining battery charge. Note: Some displays (e.g., EKD01) may not refresh battery percentage while riding and might require a power cycle for an accurate reading.
- PAS Level:** Adjust the level of pedal assist (typically 0-4 or 0-9 levels).
- Trip Distance:** Track distance covered per ride.
- Odometer:** Total distance covered.
- Headlight Control:** Turn the headlight on/off directly from the display.
- Error Codes:** Displays error codes for troubleshooting.

Riding Modes

- **Pedal Assist System (PAS):** The motor provides assistance as you pedal. The level of assistance can be adjusted via the display. Higher PAS levels provide more power and less effort from the rider.
- **Thumb Throttle:** Provides power on demand, allowing you to accelerate without pedaling. Use with caution, especially at higher speeds.

BATTERY INFORMATION (OPTIONAL)

If you have opted for a BAFANG battery with your kit, please refer to the following specifications and guidelines for optimal performance and longevity.

BATTERY PARAMETERS

• 48V 13Ah | Shark Battery

Type	48V 13Ah	48V 17.5Ah	48V 19.2Ah	48V 20Ah
Watt Hour	624Wh	840Wh	921.6Wh	960Wh
Battery Cell	18650 2600mAh	L-G 18650 3500mAh	LG 21700 4800mAh	Sam-sung 21700 5000mAh
BMS	30A	30A	30A	30A
Charge voltage	54.6V	54.6V	54.6V	54.6V
Size (L*W*H)	365*90*110mm	365*90*110mm	365*90*127mm	365*90*127mm
Weight	4.25kg	4.25kg	5.0kg	5.0kg
USB Port	✓	✓	✓	✓
Cycle Life	1000 times			
Protection Function	Over charge, Over discharge, Over current, Short circuit, Balance			

• 48V 19.2Ah | Shark Battery

Type	48V 13Ah	48V 17.5Ah	48V 19.2Ah	48V 20Ah
Watt Hour	624Wh	840Wh	921.6Wh	960Wh
Battery Cell	18650 2600mAh	L-G 18650 3500mAh	LG 21700 4800mAh	Sam-sung 21700 5000mAh
BMS	30A	30A	30A	30A
Charge voltage	54.6V	54.6V	54.6V	54.6V
Size (L*W*H)	365*90*110mm	365*90*110mm	365*90*127mm	365*90*127mm
Weight	4.25kg	4.25kg	5.0kg	5.0kg
USB Port	✓	✓	✓	✓
Cycle Life	1000 times			
Protection Function	Over charge, Over discharge, Over current, Short circuit, Balance			

• 52V 20Ah | Shark 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		

• 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		

• 48V 17.5Ah | Rear Rack 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		

Figure 7: Detailed battery parameters for different BAFANG battery options, including Watt-hour, Battery Cell type, BMS, Charge voltage, Size (L*W*H), Weight, USB Port availability, Cycle Life, and Protection Functions.

General Battery Care:

- Always use the charger provided with your battery.
- Do not expose the battery to extreme temperatures (hot or cold).

- Store the battery in a cool, dry place when not in use, ideally with a partial charge (50-70%).
- Avoid fully discharging the battery frequently, as this can reduce its lifespan.
- The battery includes protection functions against overcharge, over discharge, over current, short circuit, and balance.

MAINTENANCE

Regular maintenance ensures the longevity and safe operation of your BAFANG e-bike kit.

- **Cleanliness:** Keep the motor, controller, and battery free from dirt and debris. Use a damp cloth for cleaning; avoid high-pressure washing directly on electrical components.
- **Connections:** Periodically check all electrical connections for tightness and signs of corrosion. Ensure waterproof connectors are properly sealed.
- **Cables:** Inspect cables for any signs of wear, fraying, or damage. Replace damaged cables immediately.
- **Motor:** The brushless gear motor is largely maintenance-free. Avoid disassembling the motor unless you are a qualified technician.
- **Brakes:** Ensure your bike's brakes are in good working order, as the added speed and weight of an e-bike require effective braking.
- **Tires:** Maintain proper tire pressure for efficiency and safety.

TROUBLESHOOTING

This section addresses common issues you might encounter. For more complex problems, contact BAFANG customer support.

Table 2: Common Troubleshooting Guide

Problem	Possible Cause	Solution
Motor not providing assist	Battery low or disconnected; PAS sensor misaligned or damaged; Controller issue; Brake levers engaged.	Check battery charge and connections. Ensure PAS sensor is correctly installed and clean. Verify brake levers are not stuck. Check display for error codes.
Display not turning on	Battery disconnected or dead; Loose display cable connection; Faulty display.	Ensure battery is charged and connected. Check display cable connection. If problem persists, contact support.
Inaccurate battery percentage on display	Display software behavior (e.g., EKD01); Battery calibration needed.	Power cycle the display. Fully charge and discharge the battery a few times to recalibrate.
Unusual noise from motor	Loose components; Internal motor issue.	Check that all external components are secure. If noise persists and affects performance, contact support.

WARRANTY AND SUPPORT

BAFANG is committed to providing reliable products and excellent customer service.

- **Warranty:** The product comes with a 30-day return policy and a 365-day repair or replace warranty.
- **Customer Support:** US-based experts are available 24/7 for assistance.

- **Contacting Support:** For troubleshooting or any inquiries, easily contact us via your Amazon order:*Account & Lists*
→ *Orders* → *Get help with order*.

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