

## BAFANG RM G020.500.D/DC

# BAFANG 48V 500W Rear Hub Motor Ebike Conversion Kit User Manual

Model: RM G020.500.D/DC

## 1. PRODUCT OVERVIEW

This manual provides detailed instructions for the installation, operation, and maintenance of your BAFANG 48V 500W Rear Hub Motor Ebike Conversion Kit. This kit is designed to transform a standard bicycle into an electric bicycle, offering enhanced power and efficiency for various riding conditions.

The kit features a 500W rear-drive motor compatible with disc and V brakes, providing robust power for your vehicle. It is suitable for touring bikes, commuter bikes, and mountain bikes, offering a maximum speed of up to 38-40 KM/H.



## 2. PACKAGE CONTENTS

- Rear Wheel & Motor Assembly
- Controller
- Brake Levers (or Brake Sensors for hydraulic brakes)
- Thumb Throttle
- Controller Case
- BAFANG LCD Display (optional, DZ40 model)
- Extension Cable
- PAS (Pedal Assist Sensor)
- 1T4 Cable
- Battery and Charger (optional, if ordered)

- Headlight (optional)
- Sticker
- Plastic Straps

## packing list



A visual representation of the packing list, detailing each component included in the BAFANG ebike conversion kit, such as the rear hub motor, controller, display, battery, and various sensors and cables.

### 3. COMPATIBILITY REQUIREMENTS

Before installation, ensure your bicycle meets the following compatibility criteria:

- **Rear Dropout Size:** Your bicycle's rear dropout size must be between 135mm and 142mm.
- **Cassette Flywheel:** The kit is compatible with cassette flywheels of  $\leq 9$  speeds.
- **Brake Type:** Compatible with both disc brakes and V brakes.

## How to test the compatibility?

Fit for Rear Dropout:  
135-142mm



Gear Shift: Cassette



Dropout: 138mm



**40** KM/H  
Max Speed



**60** N.m  
Max Torque



**IPX5**  
Water Proof

• Position	Rear hub motor(Cassette)	• Max Torque (N.m)	60
• Model No.	RM G020.48V 500W.DC	• Noise Grade (dB)	<55
• Wheel Size	20/26/27.5/700C	• Spoke Specification	36H * 12G
• Rated Voltage	48	• Installation Widths	138mm / OLD
• n0	380	• Weight	3.5KG
• Rated Power	500W	• Usage	eRoad
• nT	330	• Waterproof Grade	IPX5

This diagram shows how to check compatibility for the ebike conversion kit, specifically focusing on the rear dropout measurement (135-142mm), the type of gear shift (cassette vs. freewheel), and the axle length (138mm dropout).

### 3.1 Choosing the Correct Tire Size

The kit supports various wheel sizes. Refer to the image below to select the appropriate rim diameter based on your tire size.



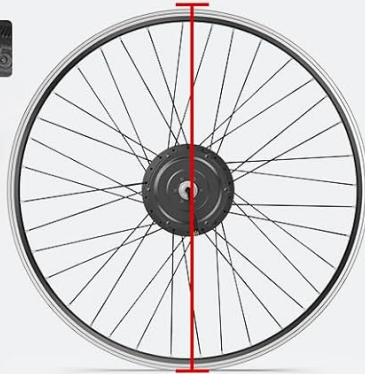
# How to choose the correct tire size?

## Double wall Rim 20"

Diameter: 425mm (16.7")

Spokes: 12g 36pcs

Compatible: 1.5"-2.4" Tire

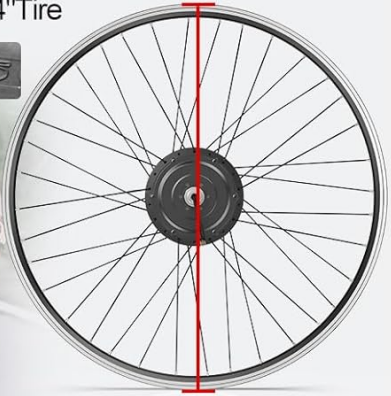


## Double wall Rim 26"

Diameter: 570mm (22.4")

Spokes: 12g 36pcs

Compatible: 1.5"-2.4" Tire

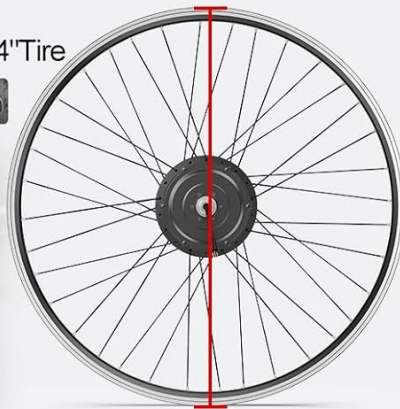


## Double wall Rim 27.5"

Diameter: 595mm (23.4")

Spokes: 12g 36pcs

Compatible: 1.5"-2.4" Tire

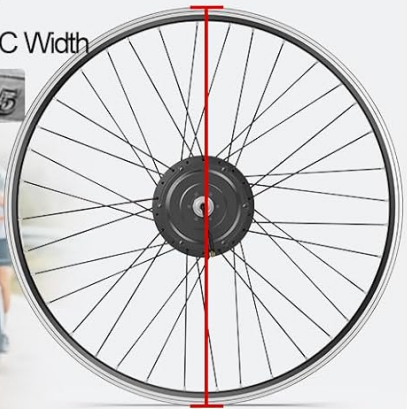


## Double wall Rim 700C

Diameter: 640mm (25")

Spokes: 12g 36pcs

Compatible: 32C-50C Width



A visual guide demonstrating how to choose the correct tire size for the conversion kit, showing double wall rim options for 20", 26", 27.5", and 700C wheels, along with their respective diameters, spoke counts, and compatible tire widths.

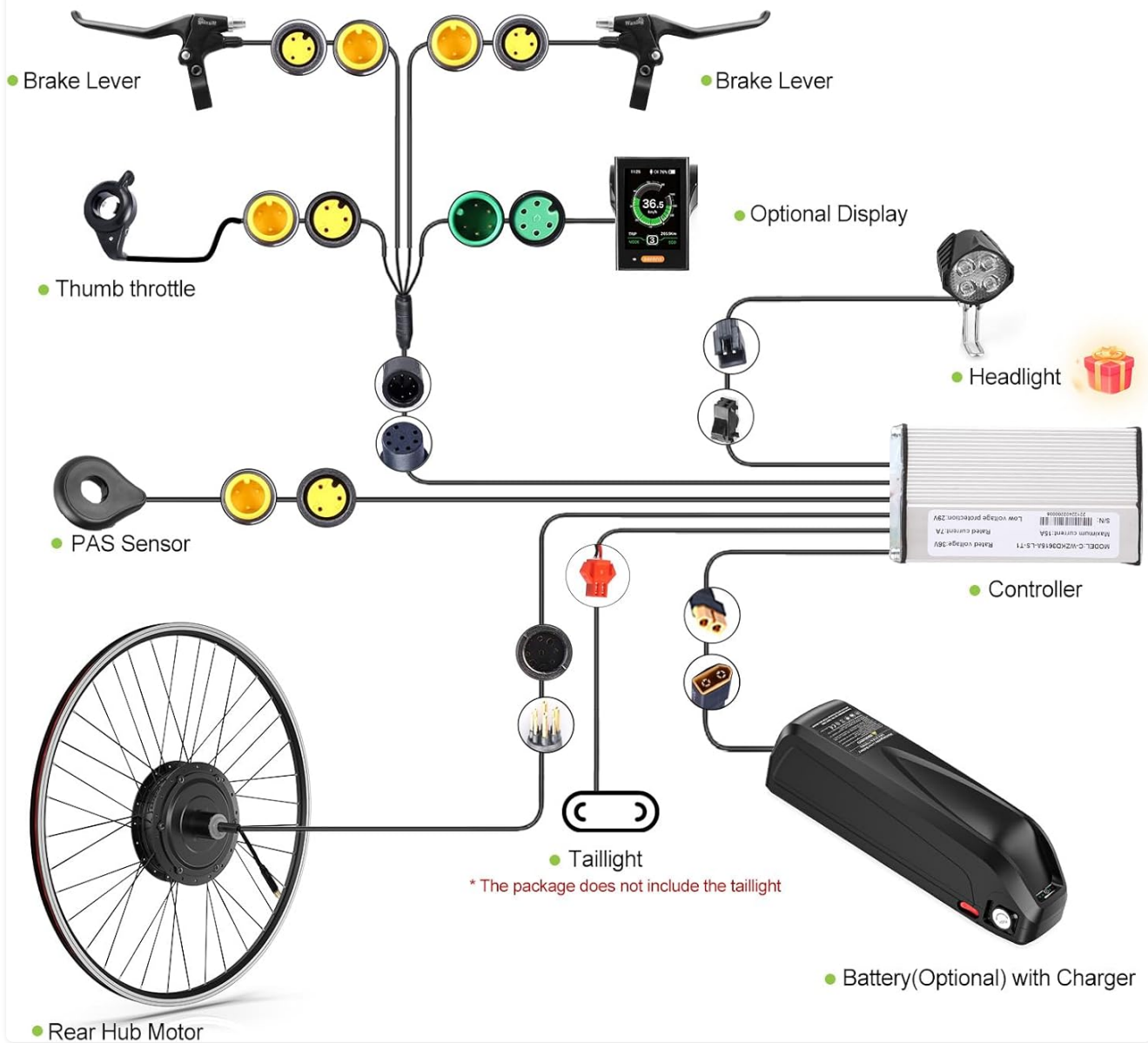
## 4. INSTALLATION GUIDE

This section outlines the general steps for installing your BAFANG ebike conversion kit. For detailed visual instructions, please refer to the provided diagrams.

### 4.1 Component Connection Overview

The kit utilizes durable waterproof connectors for easy and secure assembly. Each component connects to the controller, which acts as the central hub for the system.

# Easy Installation



A detailed wiring diagram illustrating the connections between the rear hub motor, controller, battery, display, brake levers, thumb throttle, PAS sensor, and optional headlight/taillight for the BAFANG ebike conversion kit.

## 4.2 Display Options

Your kit may include one of several display models. Each display offers different features and screen sizes.

Model	PAS Level	Screen Size	Holder(mm)	Advanced password	Language	USB Charger DC 5V 500mA
 SW2-M58	3/5/9	3.8inch	22.2/25.4/31.8	1919	English	
 DZ40	5	1.68inch	22.2	/	English	
 DM03	3/5/9	1.3inch	22.2	1657	English	
 500C	3/5/9	2.2inch	22.2	1919	English	
 EKD01	3/5/9	2.4inch	22.2/25.4	2020	Multi Language	 Type-c
 P860ML	3/5/9	3.5inch	22.2/25.4/31.8	1919	Multi Language	
 C18-9	9	3.5inch	22.2/25.4/31.8	1919	English	
 800S	0-3,1-3,0-5, 1-5 09, 1-9 UBE	2.8inch	22.2/25.4/31.8	0512	English	

A comparative table showcasing different BAFANG ebike display models (e.g., SW2-M58, DZ40, DM03, 500C, EKD01, P860ML, C18, 800S) with details on PAS levels, screen size, holder dimensions, advanced password, language support, and USB charging capabilities.

### 4.3 Battery Installation (Optional)

If your kit includes a battery, refer to the battery specification image for details on different battery types and their installation methods. Ensure the battery is securely mounted and connected to the controller.



# BATTERY SPECIFICATION

## • 48V 13Ah Shark Battery • 48V 17.5Ah



## • 48V 20Ah G80 Shark battery



## • 52V20Ah Max Shark battery



Parameter	48V 13Ah	48V 17.5Ah	48V 20Ah	52V 20Ah
Watt	624Wh	840Wh	960Wh	1040Wh
Battery Cell	18650 2600mah	Sam*/sung L**G Pana*/sonic 18650 3500mah	L**G Sam*/sung 21700 5000mah	Sam*/sung 21700 5000mah
BMS	30A	30A	30A	30A
Weight	4.25KG	4.25KG	5.0KG	5.15KG
Cycle Life	1000 times	1000 times	1000 times	1000 times

## • 48V 20Ah VoltzX Battery



## • 48V 17.5Ah • 52V 17.5Ah Rear Rack Battery



Parameter	48V 20Ah	48V/ 52V 17.5Ah
Watt	960Wh	840Wh/910Wh
Battery Cell	Sam*/sung 5000mah	18650 2500mah
BMS	30A	30A
Weight	5.2KG	7.23KG/7.5KG
Cycle Life	1000 times	1000 times

An image detailing various BAFANG ebike battery types, including Shark Battery, G80 Shark Battery, Max Shark Battery, VoltzX Battery, and Rear Rack Battery, with specifications such as voltage, watt-hours, battery cell type, BMS, weight, and cycle life.

## 5. OPERATING INSTRUCTIONS

Once installed, your BAFANG ebike conversion kit provides multiple modes of operation to enhance your riding experience.

### 5.1 Power On/Off

To power on the system, press and hold the power button on your display unit. To power off, press and hold the same button.

### 5.2 Pedal Assist System (PAS)

The PAS provides assistance as you pedal. Use the display controls to adjust the level of assistance (typically 0-5 or 0-9 levels). Higher levels provide more motor power.

### 5.3 Throttle Operation

The thumb throttle allows for on-demand power without pedaling. Gently press the throttle to engage the motor.



Release the throttle to disengage.

### 5.4 Display Functions

Your display provides real-time information such as speed, battery level, PAS level, and trip distance. Consult your specific display model's manual for detailed navigation and settings.

## 6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your ebike conversion kit.

- **Motor:** The rear hub motor is largely maintenance-free. Keep the motor housing clean and free from debris. Avoid submerging the motor in water.
- **Battery:** Charge the battery regularly, even when not in use, to maintain its health. Store the battery in a cool, dry place. Avoid fully discharging the battery.
- **Connections:** Periodically check all electrical connections for tightness and signs of wear. Ensure waterproof connectors are properly sealed.
- **Brakes:** Ensure brake levers are functioning correctly and cut off power to the motor safely when engaged. Adjust or replace brake pads as needed.
- **General Bicycle Maintenance:** Continue with regular bicycle maintenance, including tire pressure checks, chain lubrication, and gear adjustments.

## 7. TROUBLESHOOTING

This section addresses common issues you might encounter.

Problem	Possible Cause	Solution
Motor not engaging/no power	Low battery; loose connection; brake lever engaged; display error.	Charge battery; check all cables are securely connected; ensure brake levers are fully released; check display for error codes.
Inconsistent pedal assist	PAS sensor misalignment or damage; dirty sensor.	Check PAS sensor position and ensure it's clean and unobstructed.
Display not turning on	Battery not connected; faulty display cable; low battery.	Verify battery connection; check display cable for damage; charge battery.
Unusual noise from motor	Loose spokes; internal motor issue; debris in motor.	Check spoke tension; if noise persists, contact customer support.

If you encounter issues not listed here or require further assistance, please contact our global service center.

## 8. SPECIFICATIONS

Key technical specifications for the BAFANG 48V 500W Rear Hub Motor Kit.

Feature	Specification
Brand	BAFANG
Model Name	RM G020.500.D/DC

Feature	Specification
Rated Power	500W
Rated Voltage	48V
Max Speed	Up to 38-40 KM/H
Max Torque	65 N.m
Efficiency	≥ 80%
Waterproof Grade	IPX5
Installation Widths (OLD)	138mm ± 1
Compatible Wheel Sizes	20", 26", 27.5", 700C
Material	Aluminum

## How to test the compatibility?

Fit for Rear Dropout:  
135-142mm



Gear Shift: Cassette



Dropout: 138mm



**40** KM/H  
Max Speed



**60** N.m  
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A table outlining the technical specifications of the BAFANG 500W rear hub motor, including max speed (40 KM/H), max torque (60

N.m), noise grade (<55 dB), waterproof grade (IPX5), and weight (3.5KG).

## 9. WARRANTY AND SUPPORT





BAFANG offers a global service network to support its products.


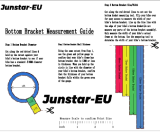
If any quality problem arises within one year of purchase, our local after-sales service centers are available to provide technical support and maintenance.

For assistance, please refer to the contact information provided with your product documentation or visit the official BAFANG website.

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### Related Documents - RM G020.500.D/DC

	<p><a href="#">BAFANG M510 Mid Motor User Manual and Installation Guide</a></p> <p>Comprehensive user manual for the BAFANG M510 Mid Motor, covering specifications, installation procedures, maintenance, and troubleshooting for electric bicycles.</p>
	<p><a href="#">Bafang Go APP: User Instructions and Guide</a></p> <p>Comprehensive instructions for using the Bafang Go APP, covering features like eBike connection, ride tracking, settings customization, and technical support. Designed for optimal user experience and SEO.</p>
	<p><a href="#">Bafang Motor H410 RM G3310.250.D User Manual</a></p> <p>Comprehensive user manual for the Bafang Motor H410 RM G3310.250.D, covering safety instructions, product description, technical specifications, operation guidelines, and maintenance procedures.</p>
	<p><a href="#">BAFANG Front Hub Motor System for Roller Brake Customer Manual - Installation, Operation &amp; Safety Guide</a></p> <p>Comprehensive customer manual for the BAFANG Front Hub Motor System with roller brake compatibility. Includes detailed instructions on installation, safe operation, maintenance, troubleshooting, specifications, and warranty information for BAFANG e-bike components.</p>

 <p>BAFANG BBS01/BBS02 Installation Manual</p> <p>The cover features the eMax eBikes logo at the top, a central image of the BAFANG BBS01/BBS02 mid-drive motor kit, and the BAFANG logo below it. At the bottom, it says 'Prepared for Customers of eMax eBikes, Australia' and has the eMax eBikes logo again.</p>	<p><a href="#">BAFANG BBS01/BBS02 Mid-Drive E-bike Motor Installation Manual   eMax eBikes</a></p> <p>Comprehensive installation manual for the BAFANG BBS01 and BBS02 mid-drive electric bike motor kits. Includes technical specifications, assembly steps, wiring diagrams, and warranty information from eMax eBikes.</p>
 <p>Junstar-EU Bottom Bracket Measurement Guide</p> <p>The cover shows a technical diagram of a bottom bracket assembly with various measurement points labeled. It also includes the Junstar-EU logo and some text about the guide's purpose.</p>	<p><a href="#">Bafang Electric Bike Conversion Kit: Jumbo Shark &amp; G80 Battery Mount Modification Guide</a></p> <p>This guide provides printable templates and instructions for modifying battery mounts for Bafang electric bike conversion kits, specifically for Jumbo Shark mounts used with G80 and other compatible Hailong batteries.</p>