

## BAFANG BBS02 48V 750W

# BAFANG BBS02 48V 750W Mid Drive Ebike Conversion Kit Instruction Manual

Model: BBS02 48V 750W



## 1. INTRODUCTION

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This manual provides essential information for the installation, operation, and maintenance of your BAFANG BBS02 48V 750W Mid Drive Ebike Conversion Kit. Please read this manual thoroughly before attempting installation or operation to ensure proper function and safety.



Image 1.1: Overview of the BAFANG BBS02 48V 750W Mid Drive Ebike Conversion Kit components, including the motor, display, and various accessories.

## 2. PRODUCT OVERVIEW AND COMPONENTS

The BAFANG BBS02 48V 750W Mid Drive Ebike Conversion Kit is designed to transform a standard bicycle into an electric pedal-assist bicycle. It features a powerful mid-drive motor and comes with a comprehensive set of accessories for conversion.

### Key Features:

- **Powerful and Reliable Motor:** The BBS02 750W motor delivers up to 120 N.m of torque, suitable for climbing and achieving speeds over 25mph.
- **Smooth, Controlled Starts:** The upgraded BBS02B motor features a slow start function and throttle-responsive acceleration.
- **Multiple Riding Modes:** Supports E-bike (throttle only), Pedal Assisted, and Push Assist modes.

- **Universal Compatibility:** Designed for bikes with a standard 68-73mm bottom bracket length and 34-36mm internal diameter.
- **Comprehensive Accessory Kit:** Includes motor, brake levers/sensors, thumb throttle, chainring, crank, LCD display, speed sensor, wiring harness, locknuts, wrench, and an ebike headlight.

### Included Components:

- BAFANG Mid-drive motor (BBS02B 750W)
- Brake lever or hydraulic brake sensor cables (optional)
- Thumb throttle
- Chainring wheel (e.g., 44T)
- Crank arms
- LCD display (e.g., SW102)
- Speed sensor
- 1T4 wire harness
- Locknuts and wrench
- Ebike headlight (default inclusion)
- Optional Ebike Battery (not included by default)

# POWERFUL MOTOR



Torque>  
100N.m



Max Speed  
45KM/H



Waterproof  
IP65



BBS:4.24kg  
BBSHD:6kg

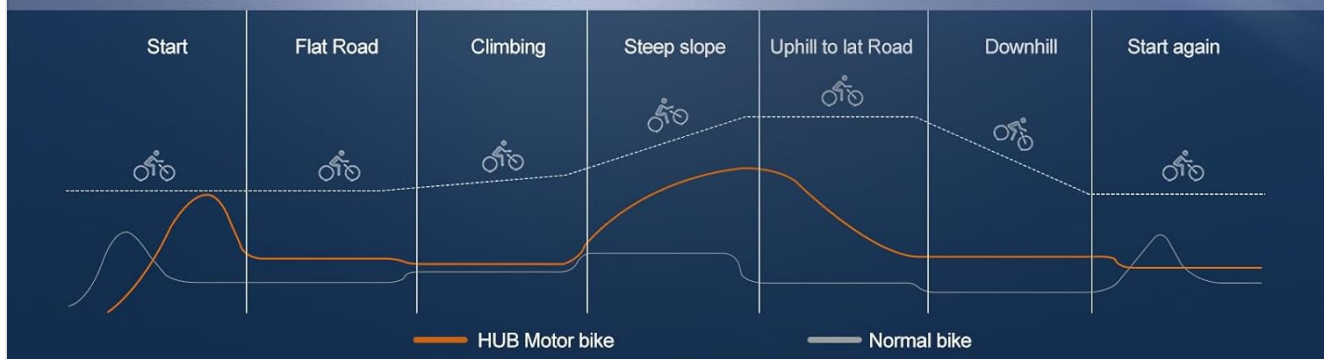
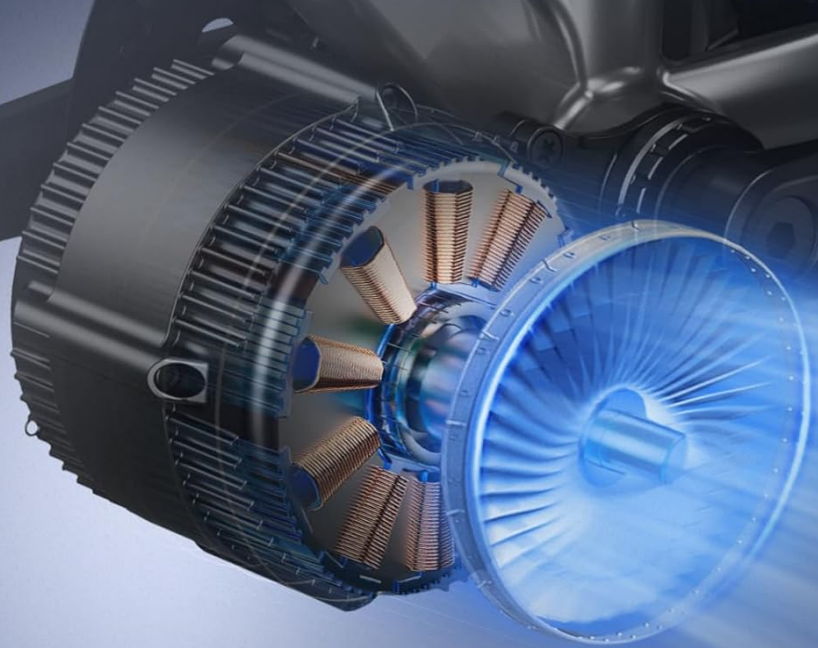


Image 2.1: Visual representation of the motor's performance characteristics, such as torque, maximum speed, and waterproof rating.

## 3. COMPATIBILITY GUIDE

Before installation, it is crucial to verify that your bicycle frame is compatible with the BAFANG BBS02 mid-drive motor kit. Incorrect fitment can lead to damage or unsafe operation.

### Bottom Bracket Requirements:

- **Inner Diameter:** Between 33.5mm and 36mm.
- **Length:** 68mm to 73mm.

# HOW DO I KNOW IF THIS MOTOR KIT FIT MY BIKE OR NOT?

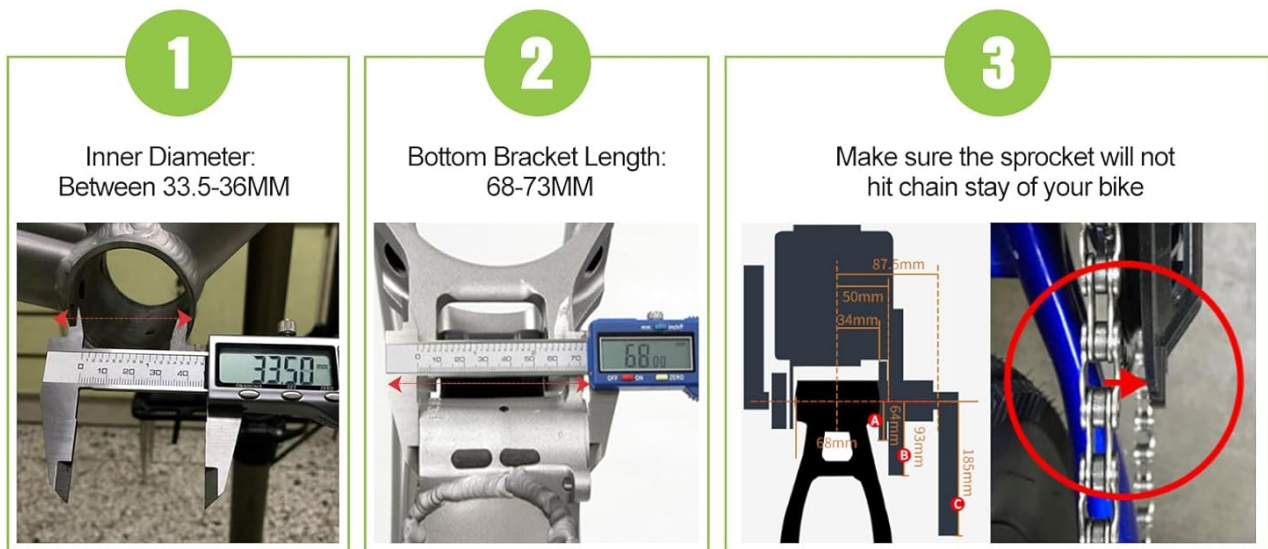


Image 3.1: Instructions for checking bottom bracket inner diameter and length, and ensuring chainring clearance.

## Unsuitable Bicycle Types:

The BAFANG BBS02 motor is not compatible with all bicycle types. Avoid installation on:

- Bicycles with belt drive chainrings.
- Coaster brake bicycles.
- Bicycles with bottom brackets outside the specified dimensions (e.g., less than 68mm or greater than 73mm).
- Bicycles where the sprocket will hit the chain stay.





## 1000W(Peak 1440W) Powerful Motor

Equipped with 1000W High-Torque Motor, with a top speed of 50KM/H making climbing easier,effortlessly conquer off-road challenges.Provide you with an awesome riding experience.

 <b>45-50KM//H</b> Max Speed:	 <b>160N.m</b> Max Torque:	 <b>5.6KG</b> Weight:
 <b>45°</b> Climbing angle:	 <b>IPX5</b> Waterproof:	

Image 3.2: Examples of incompatible bicycle configurations for the BAFANG BBS motor.

### Battery Compatibility (Optional):

If you are purchasing an optional battery, ensure it fits your bike frame. Templates for checking fitment are often available in product documentation.



## 500W(Peak 864W) Powerful Motor

Equipped with 500W High-Torque Motor, with a top speed of 40KM/H making climbing easier,effortlessly conquer off-road challenges.Provide you with an awesome riding experience.

 <b>35-40KM//H</b> Max Speed:	 <b>100N.m</b> Max Torque:	 <b>4.3KG</b> Weight:
 <b>30°</b> Climbing angle:	 <b>IPX5</b> Waterproof:	

Image 3.3: Guide for checking downtube battery compatibility.



## 750W(Peak 1152W) Powerful Motor

Equipped with 750W High-Torque Motor, with a top speed of 45KM/H making climbing easier,effortlessly conquer off-road challenges.Provide you with an awesome riding experience.

 <b>40-45KM//H</b> Max Speed:	 <b>100N.m</b> Max Torque:	 <b>4.3KG</b> Weight:
 <b>40°</b> Climbing angle:	 <b>IPX5</b> Waterproof:	

Image 3.4: Guide for checking rear rack battery compatibility.

## 4. INSTALLATION

The BAFANG BBS02 kit is designed for relatively straightforward installation. An installation video and detailed instruction manual are typically provided to assist with the process. Basic mechanical skills and tools are required.

### General Steps (Consult provided video/manual for details):

1. Remove existing crankset, bottom bracket, and pedals.
2. Install the BAFANG mid-drive motor into the bottom bracket shell.
3. Secure the motor with the provided locknuts and mounting plate.
4. Install the chainring and crank arms.
5. Mount the LCD display on the handlebars.
6. Install the thumb throttle and brake levers/sensors.
7. Attach the speed sensor to the rear wheel and frame.
8. Connect all components using the 1T4 wire harness and other cables. Ensure all connections are secure and waterproof.
9. Install the ebike headlight.
10. If using an optional battery, mount it securely and connect it to the motor system.



Image 4.1: Visual representation of the complete packing list for the conversion kit.

### Brake Lever or Sensor:

The kit typically includes brake levers with integrated motor cut-off switches. If your bike uses hydraulic brakes or shift-integrated brake handles, you may need to request brake sensors instead of levers.



Image 4.2: Guide for choosing between brake levers and brake sensors based on your bicycle's brake system.

## 5. OPERATING INSTRUCTIONS

Once installed, the BAFANG BBS02 kit offers various modes to enhance your cycling experience.

### Riding Modes:

- **E-bike Mode (Throttle Only):** Provides motor power without pedaling, controlled by the thumb throttle.
- **Pedal Assisted Bicycle Mode:** The motor provides assistance as you pedal. The level of assistance can be adjusted via the LCD display.
- **Push Assist Mode:** Provides low-speed motor assistance for walking the bike.



# WHY CHOOSE US?

## NEW UPGRADED BBS02B MOTOR

NEW

Gently Start



**Slow Start Function**





**Speed Changes Based on Throttle Pressure**



Throttle Mode ✓

Pedal Assist Mode ✓

**Speed Limit Applies To**



## Old version

OLD

Quick Start



**No Slow Start Function**



**Same Speed**

Throttle Mode ✗

Pedal Assist Mode ✓

**Speed Limit Applies To**





**Quieter Ride Experience**



**Stable Current Output**



**Stronger Power Burst**



**Communication Battery Compatible**



**Smooth Torque Feeling**



**Enhanced Function Stability**



**Reduced After-Sales Issues**

Image 5.1: Features of the upgraded BBS02B motor, highlighting smooth starts and adjustable speed limits.

## LCD Display Usage:

The LCD display provides essential information and allows you to control various settings of your ebike system.

- **Power On/Off:** Typically a long press of the power button.
- **Assist Level Adjustment:** Use the up/down buttons to change pedal assist levels.
- **Information Display:** View speed, distance, battery level, and other metrics.
- **Settings:** Access advanced settings like wheel size, speed limit, and backlight brightness.

# PACKING LIST

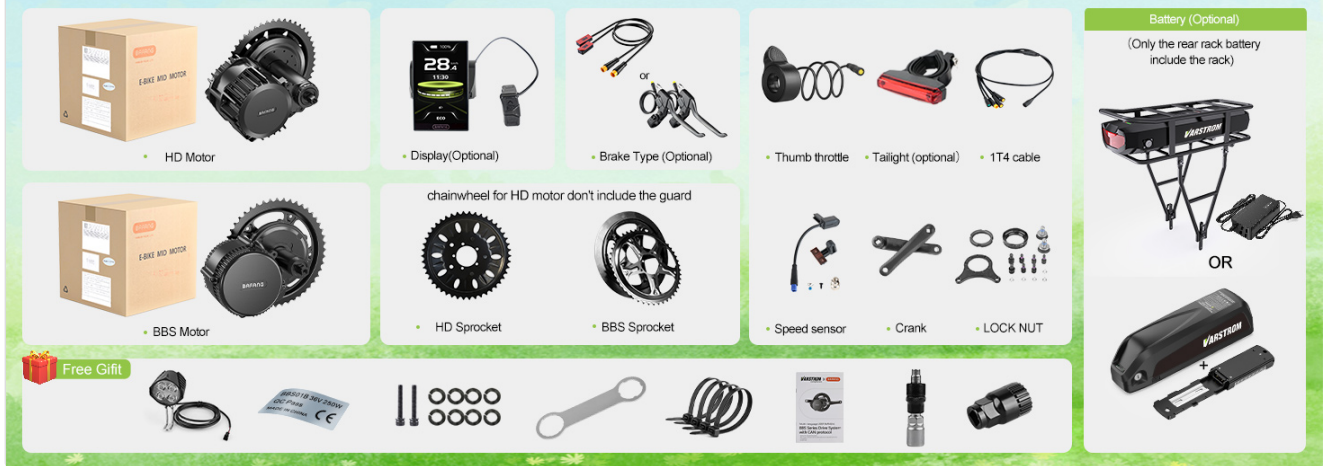


Image 5.2: Features and benefits of various smart digital displays.

## 6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your BAFANG mid-drive kit.

- **Keep Clean:** Regularly clean the motor and electrical connections to prevent dirt and debris buildup.
- **Check Connections:** Periodically inspect all electrical connections for tightness and signs of wear or corrosion. The wiring is IP65 waterproof, but proper sealing is still important.
- **Lubrication:** Ensure the bicycle chain and other moving parts are properly lubricated.
- **Battery Care:** Follow the battery manufacturer's instructions for charging, storage, and temperature guidelines. Avoid fully discharging the battery.
- **Professional Inspection:** Consider periodic inspections by a qualified ebike technician.

## OPTIONAL SPROCKET(CHAINWHEEL)

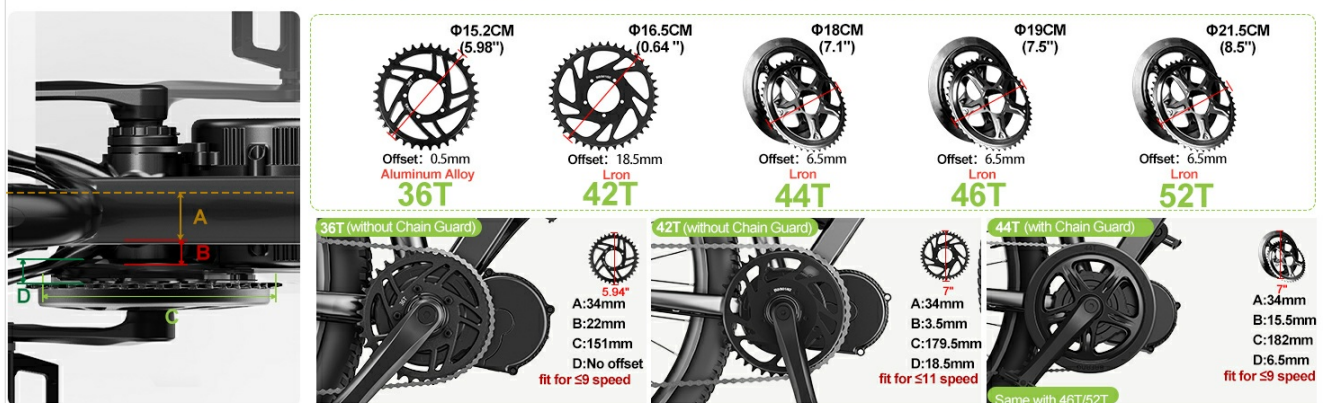


Image 6.1: Overview of the IP65 waterproof wiring system.

## 7. TROUBLESHOOTING

If you encounter issues with your BAFANG mid-drive kit, refer to the following general troubleshooting tips. For complex problems, contact customer support.

- **No Power/Motor Not Responding:**

- Check battery connection and charge level.
- Ensure all electrical cables are securely connected.
- Verify the display is powered on and showing no error codes.

- **Motor Cuts Out:**

- Check brake levers/sensors; ensure they are not engaged.
- Inspect for loose connections.
- Monitor motor temperature; overheating can cause cut-off.

- **Inconsistent Pedal Assist:**

- Check speed sensor alignment and ensure it's clean.
- Verify pedal assist level on the display.

- **Display Not Working:**

- Check power cable to the display.
- Ensure battery is charged and connected.

If problems persist, contact the BAFANG service center for technical support.

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## 8. SPECIFICATIONS

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### Motor Specifications (BBS02B 750W):

- **Voltage:** 48V
- **Wattage:** 750W
- **Max Torque:** Up to 120 N.m
- **Max Speed:** Approximately 45 km/h (28 mph)
- **Waterproof Rating:** IP65
- **Net Motor Weight:** Approximately 4.24 kg
- **Bracket Bottom Length:** 68mm (compatible with 68-73mm)
- **Material:** Aluminum

# DIFFERENCE OF BBS AND HD MOTOR





	UART Version	CAN Version	UART Version
			
	Battery Connector (Red "+", Black "-") Speed Sensor Connector EB-BUS 1T4 Connector Front Lamp Connector Gear Shift Sensor Connector	Rear Lamp Connector Front Lamp Connector Speed Sensor Connector Battery communication Gear Shift Sensor Connector 1T4 Connector Battery Connector	Battery Connector (Red "+", Black "-") Speed Sensor Connector EB-BUS 1T4 Connector Front Lamp Connector Gear Shift Sensor Connector
Motor model	M315 MM G340.500.C	M315 MM G340.750.C	M615 MM G320.1000.C
Power	500W	750W	1000W
Voltage	48V	48V	48V/52V
Controller current	18A	24A	30A
Efficiency	>80%	>50%	>80%
Max torque	100 N.m	120 N.m	160 N.m
Maximum speed	40.5km/h	47.5km/h	53km/h
Net motor weight	About 4.24kg	About 4.24kg	About 6.0kg
Bracket bottom length	68mm	68mm	68/100/120mm
 Please note that the 750W has been changed to the CAN protocol version, the connector is different and incompatible with the previous one.			

Image 8.1: Comparison of BAFANG BBS and HD motor specifications.

## Display Specifications (Example SW102):

- **Model Name:** SW102 Small Stealthy Ebike Display
- **Screen Size:** 1.5 inch IPS
- **PAS Level:** 3/5/9
- **Holder (mm):** 22.2
- **Navigation:** Not available
- **Speed Limit:** 0-99km/h
- **USB Charger:** Not available



# 6 Key Benefits for BAFANG Mid Motor



Image 8.2: Detailed display specifications for various BAFANG models.

## Battery Specifications (Optional, various models):

Various battery options are available, typically 48V or 52V, with capacities ranging from 13Ah to 20Ah. Key features often include:

- **BMS Max Protection Current:** 30A
- **Cycle Life:** 1000 times
- **Charging Time:** 6-7 hours
- **Protection Features:** Overcharge, overdischarge, overcurrent, short circuit, overtemperature protection.

# BATTERY SPECIFICATION




48V 13Ah 48V 17.5Ah		48V 19.2Ah 48V 20Ah		48V 20Ah		48V 17.5Ah			
									
Battery Model	Shark Battery 48V 13Ah	Shark Battery 48V 17.5Ah	G80 Shark Battery 48V 19.2Ah	G80 Shark Battery 48V 20Ah	VoltzX Battery 48V 20Ah	YingWu Battery 52V 20Ah	Rear Rack Battery 48V 17.5Ah		
Battery Cell	18650 2600mAh	L*/G Sam*/sung 18650 3500mAh	L*/G 21700 4800mah	L*/G 21700 5000mAh	Sam*/sung 21700 5000mAh	Sam*/sung 21700 5000mAh	18650 2600mah		
BMS Max Protection Current	30A	30A	30A	30A	30A	30A	30A		
USB Port	✓	✓	✓	✓	✓ USB/TYPE-C	✗	✓		
Weight	4.25kg	4.045kg	4.95kg	4.7kg	5.2kg	5kg	6kg		
Cycle Life	1000 times	1000 times	1000 times	1000 times	1000 times	1000 times	1000 times		
Battery Charger	✓	✓	✓	✓	✓	✓	✓		

Image 8.3: Detailed battery specifications for various BAFANG models.

## 9. WARRANTY AND SUPPORT

BAFANG provides customer support and warranty services for its products.

- **Warranty:** One month return service. For quality problems within one year, the North American after-sales service center provides technical support and maintenance.
- **Service Center:** Local warehouses and service centers are available in US/UK/CA/EU for technical support and maintenance.

For any quality issues or technical assistance, please contact the BAFANG North American service center.

# CERTIFICATE OF COMPLIANCE

Certificate Number MH64904  
Report Reference MH64904-20210330  
Date 2021-March-31

Issued to: Bafang Electric (Suzhou) Co Ltd  
9 HESHUN RD  
LOUFENG TOWN  
INDUSTRIAL PARK  
SUZHOUJIANGSU 215122 CN

This is to certify that  
representative samples of

BATTERIES FOR USE IN LIGHT ELECTRIC VEHICLES  
Model(s): BT F22.960.C.

Have been investigated by UL in accordance with the  
Standard(s) indicated on this Certificate.

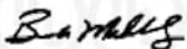
Standard(s) for Safety: ANSI/CAN/UL/ULC 2271 - Batteries for Use In Light Electric  
Vehicle (LEV) Applications

Additional Information: See the UL Online Certifications Directory at  
<https://iq.ulprospector.com> for additional information

This Certificate of Compliance does not provide authorization to apply the UL Mark. Only the UL Follow-Up  
Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's  
Follow-Up Services.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program

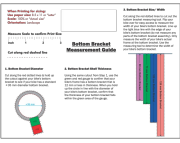



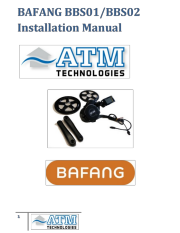
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contact a local UL Customer Service Representative at <http://ul.com/aboutul/locations>.



Image 9.1: Certificate of Compliance for BAFANG products.

## Related Documents - BBS02 48V 750W

	<p><a href="#">Bafang Bottom Bracket Measurement Guide for BBS02/BBSHD E-bike Mid-Drives</a></p> <p>Download and print this Bafang measurement guide to accurately determine your bicycle's bottom bracket diameter, shell thickness, and width. Essential for ensuring proper fitment of Bafang BBS02 (750W) and BBSHD (1000W) mid-drive motors. Includes printable template and instructions.</p>
	<p><a href="#">Bafang BBS Mid Drive Electric Bike Conversion Kit User Manual</a></p> <p>Comprehensive user manual for the Bafang BBS mid-drive electric bike conversion kit, covering installation, operation, maintenance, and troubleshooting for BBS01, BBS02, and BBSHD models. Includes detailed steps, safety information, and problem-solving advice.</p>
	<p><a href="#">Bafang Mid-Drive Ebike Programming Guide: Enhance Performance</a></p> <p>Learn how to reprogram your Bafang mid-drive ebike system for improved usability and performance. This comprehensive guide covers necessary hardware, software, configuration tool instructions, and detailed explanations of all settings for Bafang BBS02 and BBSHD motors.</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><a href="#">BAFANG BBS01/BBS02 Mid-Drive Electric Bike Conversion Kit Installation Manual</a></p> <p>Detailed installation guide for BAFANG BBS01 and BBS02 mid-drive electric bike conversion kits. Covers system overview, technical specifications, step-by-step assembly, component connections, and warranty information for e-bike DIY enthusiasts.</p>



