

BAFANG M315 MM G340.750.C

BAFANG BBS02B/HD Mid Drive Ebike Conversion Kit Instruction Manual

Model: M315 MM G340.750.C

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your BAFANG BBS02B/HD Mid Drive Ebike Conversion Kit. Please read this manual thoroughly before attempting installation or operation to ensure safe and efficient use of your new e-bike system.

2. SAFETY INFORMATION

- Always wear a helmet and appropriate safety gear when riding your e-bike.
- Ensure all connections are secure and waterproof before riding.
- Regularly inspect your e-bike for any loose parts, damage, or wear.
- Do not attempt to modify the motor or battery system beyond the manufacturer's specifications.
- Be aware of local regulations regarding e-bike usage and speed limits.
- Avoid riding in extreme weather conditions or on excessively rough terrain unless your bike is specifically designed for it.

3. PACKAGE CONTENTS

Your BAFANG Mid Drive Ebike Conversion Kit includes the following components:

- BAFANG Mid-drive motor (BBS02B/HD)
- LCD Display (various models available)

- Brake levers or hydraulic brake sensor cables
- Thumb throttle
- Chainring wheel (various tooth counts available)
- Crank arms
- Speed sensor and magnets
- 1T4 wire harness
- Locknuts and wrench
- Ebike headlight (in default)
- Battery and charger (optional, depending on kit configuration)



Figure 3.1: Typical BAFANG Mid Drive Kit Packing List. Components may vary based on specific model and options selected.

4. COMPATIBILITY

The BAFANG BBS02B/HD Mid Drive Kit is designed for universal compatibility with a wide range of bicycles, including mountain bikes, road bikes, city bikes, and fat tire bikes. Key compatibility requirements are:

- **Bottom Bracket Shell Length:** Standard 68-73mm, 85-108mm, or 105-125mm (depending on the specific motor variant).
- **Bottom Bracket Internal Diameter:** 34-36mm.

Please ensure your bike's bottom bracket meets these specifications. Certain bike types or configurations are not suitable:

- Bikes with bottom bracket shells shorter than 68mm or outside the specified ranges.
- Bikes with bottom bracket internal diameters outside 34-36mm.
- Bikes with belt drive chainrings.
- Bikes with coaster brakes.

THE CAN ADVANTAGE

Why Upgrade? Smarter, Safer, Stronger

NEW CAN PROTOCOL

- ✓ **Tune via Display/APP**
- No extra cable (Display supports tuning: VD18MT, EKD01, VD04, DPC080, DPC010)
- ✓ **Car-Grade Stability**
- Anti-interference
- ✓ **See Battery Health (When you use BAFANG Battery)**
- Real data & cycles
- ✓ **30W Lights + Protection**
- Safe & bright
- ✓ **Protected Display Circuit**
- Won't burn out
- ✓ **60V Tough Circuit**
- Handles surges



OLD UART

- Needs programming cable
- Basic connection
- No battery data
- 6V/3W lights, no protection
- No display protection
- 12V max tolerance

Figure 4.1: Guide for checking bike compatibility with BAFANG Mid Drive Motors, including bottom bracket dimensions.

6 Key Benefits for BAFANG Mid Motor

- Enhanced Stamina**
Motor assistance balances workout intensity, boosting cardio without exhaustion.
- Fuel Savings**
Zero fuel cost for daily rides, cutting long-term commuting/delivery expenses.
- Efficient Commute**
Shorten commute time and conquer long distances or rough terrains effortlessly.
- Family Bonding**
Stable motor support ensures safe rides, creating family outdoor memories.
- Traffic Avoidance**
Navigate traffic freely, ensuring punctuality and reducing commute stress.
- Cargo Capability**
High torque motor handles deliveries or cargo transport with ease.

Figure 4.2: Examples of bike configurations that are not compatible with the BAFANG BBS motor.

5. SETUP & INSTALLATION

The BAFANG Mid Drive Kit is designed for straightforward installation. An installation video is provided to guide you through the process. Basic tools are required, and no advanced mechanical skills are necessary for most standard bike conversions.

5.1. General Installation Steps

1. Remove existing crankset and bottom bracket from your bicycle.
2. Clean the bottom bracket shell thoroughly.
3. Install the BAFANG mid-drive motor into the bottom bracket shell, ensuring proper alignment.
4. Secure the motor with the provided locknuts and mounting plate.
5. Attach the chainring and crank arms.
6. Mount the display, thumb throttle, and brake levers/sensors on the handlebars.
7. Install the speed sensor on the rear wheel chainstay, ensuring the magnet passes close to the sensor.
8. Connect all wiring harnesses, ensuring secure and waterproof connections.

9. Install the battery securely on the bike frame and connect it to the motor system.

5.2. Wiring Diagram



Figure 5.1: Detailed wiring diagram for the BAFANG Mid Drive Ebike Conversion Kit, showing connections for all components.

5.3. Brake Lever/Sensor Installation

The kit includes either replacement brake levers with motor inhibitors or brake sensors for hydraulic brake systems. These ensure that motor power is cut off when brakes are applied, enhancing safety.

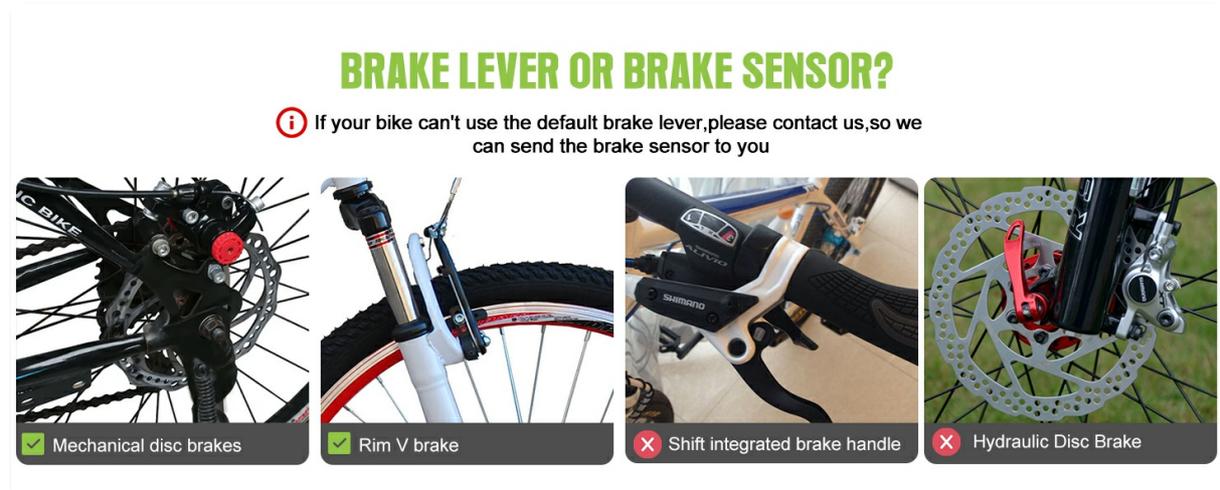


Figure 5.2: Illustration of different brake types and compatible brake lever/sensor options for the conversion kit.

5.4. Installation Videos

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Video 5.1: Detailed installation guide for the BAFANG BBS Mid Drive Motor on an eBike.

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Video 5.2: Overview of BAFANG Ebike Mid Drive Motor Kits and their components.

6. OPERATING INSTRUCTIONS

Your BAFANG e-bike system offers multiple riding modes and customizable settings via the digital display.

6.1. Riding Modes

- **E-bike Mode:** Full electric power, controlled by the thumb throttle.
- **Pedal Assisted Bicycle (PAS) Mode:** Motor provides assistance as you pedal. The level of assistance can be adjusted via the display.
- **Push Assist Mode:** Provides low-speed motor assistance for walking the bike, useful for navigating steep inclines or crowded areas.

IF THE MOTOR CAN FIT WITH MY BIKE?

- 1 Scroll down the product page and you can find the file of compatibility guide

Product guides and documents

User manual(PDF) 

- 2 Print the testing cutouts in 1:1 scale and then cut it off.



- 3 Use the testing cutouts to check the compatibility.



- 1 Inner Diameter: Between 33.5-36MM



- 2 Bottom Bracket Length: 68-73MM



- 3 Make sure the sprocket will not hit chain stay of your bike

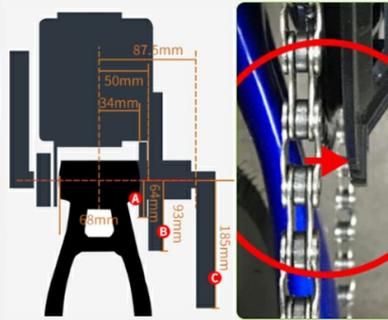


Figure 6.1: Illustration of various riding modes and their functions, including slow start and speed limit adjustments.

6.2. Digital Display

The digital display provides essential information and allows you to customize your riding experience.

Features typically include:

- Current speed, distance, and ride time.
- Battery level indicator.
- Pedal Assist System (PAS) level adjustment.
- Headlight indicator and control.
- Error code display for diagnostics.
- Speed limitation settings for both Pedal Assist and Throttle modes.

Smart Digital Display



-  Color screens with backlight settings for clear visibility.
-  Adjustable speed limits to suit various terrains.
-  Dual interface themes for customizable display.
-  Nine PAS level for versatile speed adjustments
-  USB charging port for emergency smartphone charging
-  Automatic light sensor activates headlight in dark environment



VS



-  Unattractive black display
-  Fixed to 3-5 adjustable PAS levels
-  Subpar water resistance
-  Inadequate visibility under sunlight
-  Limited functions, poor user experience

Figure 6.2: Overview of various BAFANG digital display models and their specifications, including screen size, PAS levels, and features.

6.3. Operating Videos

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Video 6.1: Learn more about the BAFANG BBS HD motor, including its operation and features.

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Video 6.2: Further details on the BAFANG BBS motor's capabilities and user experience.

7. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your BAFANG e-bike system.

- **Regular Cleaning:** Keep the motor, battery, and electrical connections clean and free from dirt and debris.
- **Battery Care:** Charge the battery regularly, even when not in use, to maintain its health. Avoid fully discharging the battery. Store the battery in a cool, dry place.
- **Drivetrain:** Keep your chain and gears clean and lubricated. Mid-drive motors can put more stress on the drivetrain, so regular inspection and maintenance are crucial.
- **Connections:** Periodically check all electrical connections for tightness and signs of wear. The system features IP65 waterproof wiring for enhanced durability.

8. TROUBLESHOOTING

If you encounter issues with your BAFANG e-bike kit, refer to the following common troubleshooting tips:

- **Display Not Turning On:** Check battery connection and ensure the battery is charged. Verify all main power cables are securely connected.
- **Motor Not Assisting:** Check the PAS level on your display. Ensure the speed sensor is correctly installed and detecting the magnet. Verify brake levers/sensors are not engaged.
- **Error Codes:** The display will show error codes for specific issues (e.g., Error Code 21 for speed sensor malfunction). Consult the display's user manual for a complete list of error codes and their solutions.
- **Unusual Noises:** Inspect the motor and chainring for any obstructions or loose components. Ensure the chain is properly lubricated and tensioned.

For persistent issues, please contact BAFANG customer support or your North American after-sales service center.

9. SPECIFICATIONS

9.1. Motor Specifications

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Figure 9.1: Comparison of BAFANG BBS and HD motor specifications, including power, voltage, torque, and maximum speed.

Feature	BBS02B 500W (UART)	BBS02B 750W (CAN)	BBSHD 1000W (UART)
Power	500W	750W	1000W
Voltage	48V	48V	48V/52V
Controller Current	18A	24A	30A
Max Torque	100 N.m	120 N.m	160 N.m
Max Speed	40.5 km/h	47.5 km/h	53 km/h
Net Motor Weight	~4.24 kg	~4.24 kg	~6.0 kg

9.2. Battery Specifications (Optional)



Figure 9.2: Various battery options and their specifications, including voltage, capacity, weight, and cycle life.

9.3. Chaining Options

OPTIONAL SPROCKET(CHAINWHEEL)

The diagram illustrates five sprocket options with their respective dimensions and offsets:

- 36T**: $\Phi 15.2\text{CM}$ (5.98"), Offset: 0.5mm, Aluminum Alloy
- 42T**: $\Phi 16.5\text{CM}$ (6.64"), Offset: 18.5mm, Lron
- 44T**: $\Phi 18\text{CM}$ (7.1"), Offset: 6.5mm, Lron
- 46T**: $\Phi 19\text{CM}$ (7.5"), Offset: 6.5mm, Lron
- 52T**: $\Phi 21.5\text{CM}$ (8.5"), Offset: 6.5mm, Lron

Dimensions for different gear setups:

- 36T (without Chain Guard)**: A: 34mm, B: 22mm, C: 151mm, D: No offset, fit for ≤ 9 speed
- 42T (without Chain Guard)**: A: 34mm, B: 3.5mm, C: 179.5mm, D: 18.5mm, fit for ≤ 11 speed
- 44T (with Chain Guard)**: A: 34mm, B: 15.5mm, C: 182mm, D: 6.5mm, fit for ≤ 9 speed

Additional notes: 44T is the same as 46T/52T.

Figure 9.3: Available chaining sizes (36T, 42T, 44T, 46T, 52T) and their offsets for different gear setups.

10. WARRANTY & SUPPORT

Your BAFANG Mid Drive Ebike Conversion Kit comes with a one-month return service. In case of any quality problems within one year of purchase, our North American after-sales service center provides technical support and maintenance.

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