



Mule Owners Manual

Introduction

Thank you for purchasing the Mule from BackCountry eBikes (BCEB's). We take pride in bringing you a quality product that will offer you years of enjoyment.

The Mule features, the unparalleled power and performance of Bafangs ULTRA mid-drive motor, with its game changing torque and dual speed sensors. These highly sensitive sensors record data on crank torque, vehicle speed, and pedal rotation speed ensuring precise control of the bike while achieving the highest possible efficiency. On a quick trail ride or a week in the back country the Mule can handle anything you throw at it.

This manual contains details of the Mule ebike, its equipment, and information on its operation and maintenance. Read it carefully and familiarize yourself with the Mule before using it in order to ensure safe use and prevent tragic accidents. Be sure to retain this manual as reference to product knowledge and safe riding.

The manual includes many Warnings and Cautions concerning the safe operation and consequences if safe operation is not performed in respect to operation and maintenance of this product. All information in the manual should be carefully studied and if you have any questions, you should contact BCEB's immediately. The notes/warnings/cautions included within the dotted red boxes, as shown to the left, should be given special care when reviewing as they are directly related to hazardous or dangerous situations if not avoided.

Because it is impossible to anticipate every situation or condition which can occur while riding, this manual makes no representation about the safe use of the Mule under all conditions. There are risks associated with the use of any bicycle which cannot be predicted or avoided, and which are the sole responsibility of the rider. You should save this manual, along with any other documents that pertain to the Mule, for future reference. However, all content in this manual is subject to change or withdrawal without notice. BCEB's makes every effort to ensure the accuracy of its documentation and assumes no responsibility or liability for any errors or inaccuracies that may appear herein.

Introduction

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Parts description



Daily checks

To ensure safety, make the following functional checks before riding:

- 1 - Normal operation of the light, brake and power cut system.
- 2 - Tire pressure (low pressure, will influence both autonomy and speed).
- 3 - Wheel axle tightening.
- 4 - Battery charging level.
- 5 - Braking system adjustment and free operation.



Assembly instructions

1. Carefully remove the Mule from its carton;
2. Please tighten the handlebar-stem with the following instruction;
 - A. Use M5 Allen Key to tighten;
 - B. Press the rubber after tightening;



Assembly instructions

Please tighten the handlebar-stem with the following instruction



Battery charging

Charging tips

- The battery pack should be recharged after each use. There is no memory effect so you can charge the battery after short periods of use without damage.
- The battery can be recharged on or off the bike.
- Remove the battery by turning the key and then pulling forwards and upwards carefully until the pack lifts off.
- The charger will automatically stop once the battery pack is full.
- Always charge in dry conditions and indoors away from direct sunlight.
- Check charger cables, charger, and battery for damage before beginning each charge.

With the battery removed

1. When the battery is removed, do not touch the “+” and “-” contacts, especially with wet hands or metallic objects.
2. Do not recharge the battery in the inverted position. If you do, you drastically reduce its lifespan.
3. Place the charger in a flat, secure place, and connect the output plug to the socket in the battery box.
4. Then, connect the input plug (110V/220V terminal) to the power outlet, and charging will start.
5. After charging has finished, first, unplug the input plug (terminal 110V/220V), and then the output plug.

Additional Charging Info

When the battery is charging on the bike

1. Switch off the power. The battery can be charged on or off the bike.
2. Plug the output lead of the charger into the socket of the battery case.
3. Plug the AC power input plug into the 110/220 volt household power socket to start charging.
4. After charging unplug from the wall outlet first and then from the bike charger socket.

NOTE: Always charge your battery at temperatures between 50 and 80 Fahrenheit degrees and make sure that battery is not damaged before charging.



Duration of charging

1. When the input and output terminals are connected, the red indication light of the charger will turn on, showing that the power is connected.
2. When the battery is charged for the first time, 8-10 hours should be spent for charging. When the yellow indication light of the charger is turned on, showing that the battery is full it will switch to trickle charge mode to ensure that over-charging will not occur, it takes 2-8 hours for normal charging.
3. This charger has a protection device for over-charging. Avoid charging for more than 24 hours as this may affect the life of the battery.

About charging

If charging with the battery removed

- 1-Keep the charger in a safe place, away from children.
- 2-Do not use the battery when not fully charged. This may decrease its lifespan.
- 3-Only charge the battery with the original charger.
- 4-The charger works with 110/220V. Never open the battery.
- 5-Avoid charger contact with liquids and/or metal objects. Always be sure it is safely stored/placed so that it can not be damaged from a fall/impact.
- 6-When in use, the charger should not be covered, to prevent overheating, damage, or fire.
- 7-The charger is only for indoor use. Please keep it in a dry and ventilated place.
- 8-If you notice a strange smell from the charger, or if it is too hot, stop charging, and contact BCEB's.

Important tips while riding

- 1-In order to reduce consumption, increase autonomy, and extend the motors lifespan, use the pedals during startups and climbs.
- 2-Do not press down on the throttle too fast. The Mule should accelerate slowly, reducing consumption and risk of damage to the electrical system. It's better to use the pedals to avoid sudden stops and startups.
- 3-To increase security and reduce power consumption, it's advised to avoid sudden stops and startups.
- 4-The Mule controller has a charge overload protection. If on overload, energy will be cut automatically and restored when it returns to normal.
- 5-While riding, avoid using the throttle as you brake, as it may damage the motor.
- 6-The maximum load is 225-250lbs. Avoid riding with overload. Do not ride too fast.

Important tips when parking

- 1-When pushing the Mule manually, turn off the power to avoid accidental acceleration and accidents.
- 2-It is recommended to park indoors. Do not forget to switch off the power and remove the key.
- 3-In a public place, the Mule must be parked in accordance with local traffic rules. Do not forget to switch off the power and remove the key.

How to start up the Mule

A.

Press the battery ON/OFF button and battery power LED display to see the power capacity.



B.



-Hold down center button on button cluster until LCD screen turns on.



Check the LCD display manual for details.

Riding Range

Average distance from one charge: 25-40km(15-40miles) differs depending on battery.
 Conditions of testing: wind speed: level 2-3, normal atmosphere temperature: 25 degrees, Load: 90kg, atmospheric pressure: 3.5kg/cm, flat concrete surface; battery: full

Surfa \ Rang	10Km	20Km	30Km	40Km	Driving condition
Flat					Wind level:2-3 Normal temperature:25°C Normal load
Flat					against wind level:2-3 Normal temperature:25°C normal load
upslope/downslope					degree of slope ≤ 2 degree wind level: 2-3 normal temperature: 25°C normal load

Max speed (25-45Kmh) miles of journey

Power consumption of one time charge: ≤0.5kw.h

Economical speed: 18km/s

The load haul is related to flat or hilly roads, road surface, times of start-up, times of braking, wind direction, atmospheric temperature, air pressure in the tires.

Economy speed(10km/s) miles of journey

Rated load: 90kg

Dead load: ≤30kg

Additional Safety Notes

Specific operation explanations



SPECIFICATIONS

Core Data

Display Type LCD

Display Color matrix Display

Rated Voltage(DCV) 36/43/48

Support Modes 0-3/0-5/0-9

Operating Temperature -20 - 45 °C

Com. Protocol UART

Weight (g) 200

Mounting Parameters

Dimensions (mm) 92*57*81

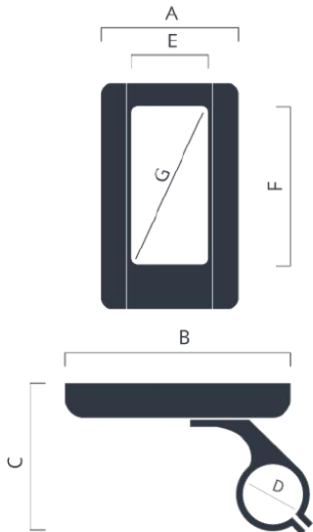
Holder (mm) Ø 22.2/25.4/31.8

Cable Length(mm), Connector Type 230

M5.2 / 850 M5.2

Control Unit Cable (mm) 300 / 250

Additional Safety Notes



Dimension A	92 mm
Dimension B	57 mm
Dimension C	81 mm
Dimension D	Ø22.2/25.4/31.8 mm
Dimension E	68 mm
Dimension F	45 mm
Dimension G	3.2"

The BAFANG HMI with a high-contrast LCD display delivers all important information at a glance and can also be read in direct sunlight without difficulty. The HMI is protected against contact and ingress of water and dirt and complies with protection class IP 65.

Basic maintenance

To ensure safe riding conditions you must properly maintain your Mule. You should follow the basic guidelines below and see your certified local bike shop, at least seasonally, to ensure your Mule is safe for riding.

Regular self-checks

1. Tightening and correct operation of both wheels, frame and front fork.
2. Tire pressure and conditions.
3. Gearshift correct operation.
4. Reflectors conditions and correct operation.
5. Braking system correct operation.
6. If you do not use the Mule for long periods of time, charge the battery at least once a month, to avoid reducing its lifespan.

Maintenance and cleaning tips

1. Do not wash with high pressure jets to prevent water infiltration into the electrical system.
2. Dirt on painted surfaces should be removed with a neutral product. Then, wipe with a dry cloth.
3. Lubricate the Mule with suitable lubricant, after washing.
4. Do not apply lubricant on the brakes, brake levers, rims, tires, battery and controller.

Troubleshooting

	Symptoms	Possible causes	Most common solutions
1	It doesn't work	(1)Insufficient battery power (2)Faulty connections (3)Key in wrong position	(1)Charge the battery (2)Clean the connections (3)Turn the key into the correct position
2	Irregular acceleration and/or reduced top speed	(1)Insufficient battery power (2)Loose throttle magneto (3)Damaged throttle spring	(1)Charge the battery (2)Weld and adjust (3>Contact an Authorized Service Center
3	When powered on, the motor doesn't respond	(1)Loose wiring (2)Loose throttle magneto (3)Loose or damaged motor wiring plugs	(1)Repair and/or reconnect (2)Weld and adjust (3>Contact an Authorized Service Center
4	Reduced range	(1)Low tire pressure (2)Low or faulty battery charge (3)Driving with too many hills, braking, depart-ures, and/or excessive load (4)Battery discharged for long period of time, without regular charges, aged or damaged	(1)Adjust the tire pressure (2)Check the connections and/or fully charge the battery (3)Help with the pedals (4)Replace the battery (5)Make a prolonged battery charge
5	The battery won't charge	(1)Charger not well connected (2)Battery cases fuse blown (3)Battery wiring disconnected or with a bad	(1)Adjust the connections (2)Replace the fuse (3)Reconnect/repair the wiring
6	Driving wheel makes strange noises	(1)Charger not well connected (2)Battery cases fuse blown	(1)Replace the bearing (2)Adjust/replace the rim

For your safety, do regular maintenance and tightening checks. If you find any abnormality, repair immediately.

Recommended torque values for threaded fasteners

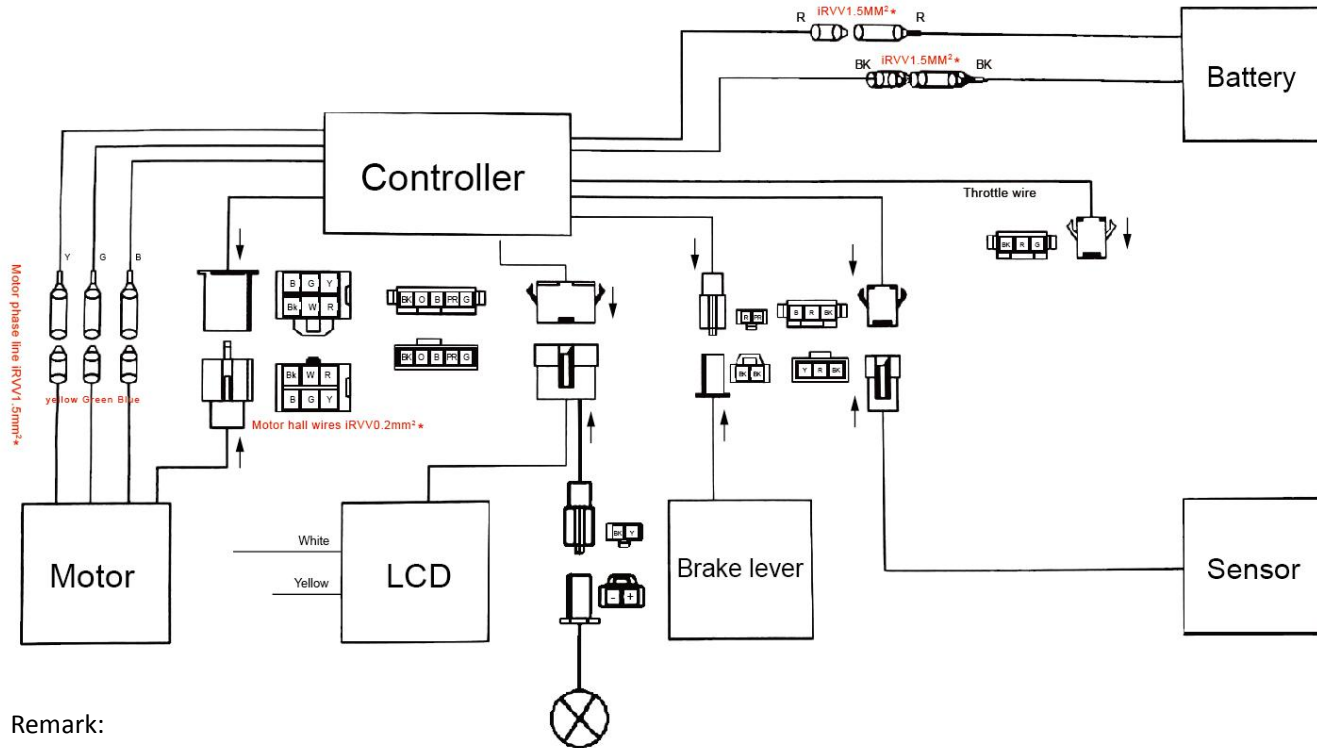
NO.	Parts	Torque required(N.M)
1	Handlebar	18-20
2	Handlebar-stem	18-20
3	Saddle	18-20
4	Seat-pillar	18-20
5	Front wheel	16-25
6	Rear Wheel	25-35
7	B.B Parts	35-55

Minimum saddle height and the way to measure



To adjust seat height, use quick release lever to set free the seat post and pull upwards or push downwards to reach desired height.

Wiring diagram with LCD display



Remark:

1:Except label wire diameter, other=0.30mm². 2:All connector terminal is electrolytic tinning.

3:All wires are national standard wires.

R=red, B=blue, Bk=black, G=green, Y=yellow, Pr=purple, W=white, Pink=pink, O=orange, Cam blue=Cambridge blue

Saving battery power and extending your range

Frequent braking and starting, riding uphill against a strong wind, starting from a standstill and riding on rough or muddy roads, and carrying more than one person, or heavy loads will consume extra battery power and shorten the range.

A few tips to prolong the battery life during these conditions:

1. Frequent Braking-try to look ahead and coast rather than stop and go frequently.
2. Riding uphill or against a stiff wind-pedal to supplement battery power.
3. When starting from a standstill-use the pedals to help bring you up to speed.
4. When the battery meter indicates the voltage is low, switch to manual power and avoid using the battery so you don't shorten the battery life.
5. If the battery is being stored, remove the battery from the bicycle and recharge it every month.

Useful tips

- 1.This user manual should be used only to reference use and functions but should not be used as a reference for inspection.
- 2.The images shown may differ from the actual model to technical improvements.
- 3.We reserve the right to change the model without prior notice due to technical improvements.
- 4.The Mule has a top speed limiter. For safety purposes, its removal is strictly prohibited.
- 5.Ensure pre-ride checks are performed before each and every ride.
- 6.Only allow others to ride who have already been adequately trained on the use and operation of this product.

General Warning

Like any sport, cycling involves risk of injury and damage. By choosing to ride a bicycle, you assume the responsibility for that risk, so you need to know—and practice—the rules of safe and responsible riding and of proper uses and maintenance. Proper use and maintenance of your Mule reduces risk of injury.

Your Mule is designed for use by persons 16 years of age and above. Riders must have the physical coordination, reaction time and mental capability to ride and manage traffic, road conditions, sudden situations and also respect the laws governing bicycle use where they ride, regardless of age.

If you have an impairment or disability such as a visual impairment, hearing impairment, physical impairment, cognitive/language impairment, seizure disorder, or any other medical condition, consult your physician before riding any bicycle.

A note for parents and guardians

Note on Helmets

Make sure that you always wear an approved bicycle helmet when riding; but also make sure that you understand that a bicycle helmet is for cycling only, and must be removed when not riding. A helmet must not be worn while playing, in play areas, on playground equipment, while climbing trees, or at any time while not riding a bicycle. Failure to follow this warning could result in serious injury or death. Do not let a child younger than 16 years of age ride the Mule.

Additional Notes for parents

As a parent or guardian, you are responsible for the activities and safety of your child, including making sure that the Mule is properly fitted to the child; that it is in good repair and safe operating condition; that you and your child have learned and understand the safe operation of this electric bicycle; and that you and your child have learned, understand and obey not only the applicable local motor vehicle, bicycle and traffic laws, but also the common sense rules of safe and responsible cycling. As a parent, you should read this manual, as well as review its warnings and the Mule's functions and operating procedures with your child, before letting your child ride the Mule.

Safety notes before first use

- If your Mule comes with additional documents or manuals from BCEB's, these documents must also be read before using this product.
- All users must read this manual before first use.
- Ensure that you comprehend all instruction and safety notes.
- Ensure the Mule fits you properly before first use. You may lose control or fall if your Mule is too big or too small.
- Always wear an approved bicycle helmet while using this product and ensure that the helmet manufacturers instructions for fit and care are strictly adhered to.
- Ensure correct tightening and setup is performed on your bicycle before first use and checked regularly.
- It is your responsibility to familiarize yourself with laws and requirements for the operation of this product in the area(s) where you ride.

Additional Safety Notes

- Ensure handlebar and grips are not damaged or improperly installed. Loose or damaged grips can cause you to lose control and fall.
- Failure to wear a helmet when riding many result in serious injury or death.
- Do not use this product with standard bicycle trailers, stands, or vehicle bicycle racks. Contact BCEB's to check if your equipment will work with the Mule.
- Off-road riding requires close attention and specific skills and present variable conditions and hazards which accompany the conditions. Wear appropriate safety gear and do not ride alone in remote areas.
- Take extra care while riding in wet conditions. Feet or hands can slip in wet conditions and lead to death or serious injury from a fall.
- Do not remove front or rear reflectors and the purchase of a bell is strongly encouraged.
- Lights should and must be used in addition to reflectors in most locations.

Additional Safety Notes

- Engaging in extreme riding is extremely dangerous and should be avoided. Although many articles/advertisements/catalogue depict riders in extreme terrain, this is not recommended nor permitted and you can be seriously injured or killed if you perform extreme riding.
- Bicycles and bicycle parts have strength and integrity limitations and extreme riding should not be performed or you risk damaging the components or becoming seriously injured or killed.
- Failure to confirm proper installation, compatibility, proper operation, or maintenance of any component or accessory can result in serious injury or death.
- After any incident you must consider your bike unsafe to ride until you consult with a certified bicycle service provider for a comprehensive inspection.
- Failure to properly charge, store, or use your battery will void the warranty and may cause a hazardous situation.
- Extreme care should be taken when using the pedal assistance sensor on this product. Ensure you understand and are prepared for the power assistance to prepare you as soon as pedaling is underway.

Additional Safety Notes

- You should check the operation of the brake inhibitor switches before each ride. The brake system is equipped with an inhibitor which shuts down power to the electric motor whenever the brakes are engaged. Check proper operation slowly while in a controlled environment by riding slowly with the motor engaged and applying the brake levers.
- User must understand the operation of the thumb throttle and pedal assist sensors before using, and take care in their usage in respect to traveling at speeds appropriate for usage area and user experience level. Always use the lowest assist level until you are comfortable with the bike and feel confident in controlling the power.
- Any changes to the product not expressly approved by BCEB's could void warranty and decrease safety while riding.
- Because electric bikes are heavier and faster than normal bicycles, they require extra caution and care while riding.
- To avoid shock never submerge the electrical components in water or subject to salt water environments.



The product(s) has been verified on a voluntary basis. The product(s) satisfies the requirements of the Certification Mark of ECM, in reference to the above listed Standard(s). The above Certification Mark can be affixed on the product(s) accordingly to the ECM regulation about its release and its use. Whereas the Manufacturer is responsible of the CE certification of the product(s) and not exempted to perform all the necessary activities before placing the product(s) on the market. The Manufacturer is also responsible to maintain efficient the internal production control to ensure the product(s) are in compliance with the Certification ECM.

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