

E-BIKE USER MANUAL

www.mokwheel.com

Obsidian 2.0



MOKWHEEL



CONTENTS

Attention	01
Safety Precautions	03
Product Description	06
Inverter Instructions	08
Assembly Instructions	09
Display & Instructions	23
Battery & Charger	35
Air Shocks	41
Brakes	43
Electric Bike Care Guide	45
Safety Checklist	46
Disclaimer	48

Attention

This manual contains detailed information about the product, operation and maintenance guidelines, safety precautions, and other helpful tips for users. All users must read and familiarize themselves with the following information to ensure safe use and prevent tragic incidents. Failure to review this information may result in injury or death.

Before use, be sure to read this manual and all provided component manuals. Keep this manual and other accompanying documents with the bike for future reference.

Since it is impossible to predict all situations or conditions that may arise during riding, this manual makes no representations regarding the safe use of the electric bike under all conditions. Therefore, any unforeseen risks associated with the use of the electric bike are the sole responsibility of the rider.

All contents of this manual are subject to change or withdrawal at any time without prior notice. Please visit www.mokwheel.com to download the latest version. Mokwheel makes every effort to ensure the accuracy of its documentation. However, Mokwheel assumes no responsibility or liability for any errors or inaccuracies that may occur.



Notice

The initial assembly and adjustment of Mokwheel bikes may be challenging and should be performed by two people. Pay special attention to areas marked with this warning symbol and all information starting with “NOTICE” in this manual.

As a parent or guardian, it is your responsibility to ensure the safety and supervision of your child’s activities. Mokwheel bikes are not designed for children.

Safety Precautions

1. Failure to ensure the proper installation, operation, or maintenance of any component or accessory may result in serious injury or death.
2. Before riding, make sure the bike fits you properly. Riding a bike that is too large or too small may result in loss of control or a fall.
3. Ensure that all bolts are tightened and that the E-bike is properly set up before riding. Conduct regular inspections.
4. Always wear a helmet. Helmets significantly reduce the risk of head injuries. Follow the safety regulations of your state when riding your Mok-wheel bike. Riding without a helmet may result in serious injury or death.
5. Wear reflective clothing to make yourself more visible. Keep reflective materials clean and properly aligned. Use headlights and taillights when visibility is low.
6. Wear sturdy shoes and protective eyewear. Check your state's laws for other potential protective gear requirements.
7. E-bikes are heavier and faster than conventional bikes—exercise extra caution while riding.
8. Ride slowly until you become familiar with the riding conditions. Never ride at excessive speeds or beyond your ability.
9. Alcohol, drugs, fatigue, and distractions greatly impair your judgment and ability to ride safely.
10. Keep your bike in a safe condition by regularly inspecting and maintaining it to ensure a longer product life for your Mokwheel E-bike. Refer to the safety checklist on page 36 of this manual.

11. Ensure that the handlebar grips are not damaged and are properly installed. Loose or damaged grips may result in loss of control and a fall.
12. Check the brake sensor functionality before each ride. The braking system is equipped with sensors that cut off motor power when the brakes are engaged. Make sure the brakes function properly before every ride.
13. Familiarize yourself with the operation of the twist throttle and pedal-assist sensor before use. Always ride at a speed suitable for the area and your experience level.
14. Improper charging, storage, or use of the battery will void the warranty and may result in hazardous situations. Refer to the Battery and Charger section for details.
15. Exercise extra caution when riding in wet conditions. Wet environments may cause feet or hands to slip, leading to falls, serious injury, or death.
16. After any accident, do not ride your bike until it has been thoroughly inspected by a certified e-bike mechanic.
17. E-bikes and their components have limitations on strength and integrity. Avoid extreme riding, as it may cause component failure or result in serious injury or death.
18. Do not ride the bike for any unintended purposes, as this may result in severe injury or death.

19. Off-road riding requires close attention and specific skills. Be mindful of various conditions and hazards.
20. Wear appropriate protective gear and avoid riding alone in remote areas. If off-road riding is permitted, check local rules and regulations.
21. Do not use this product with standard bike trailers, stands, or racks. Contact Mokwheel to verify whether your equipment is compatible with this bike.
22. It is your responsibility to be familiar with the laws and requirements related to product operation in your riding area.
23. Ensure you understand all instructions and safety notices/warnings.

Product Description

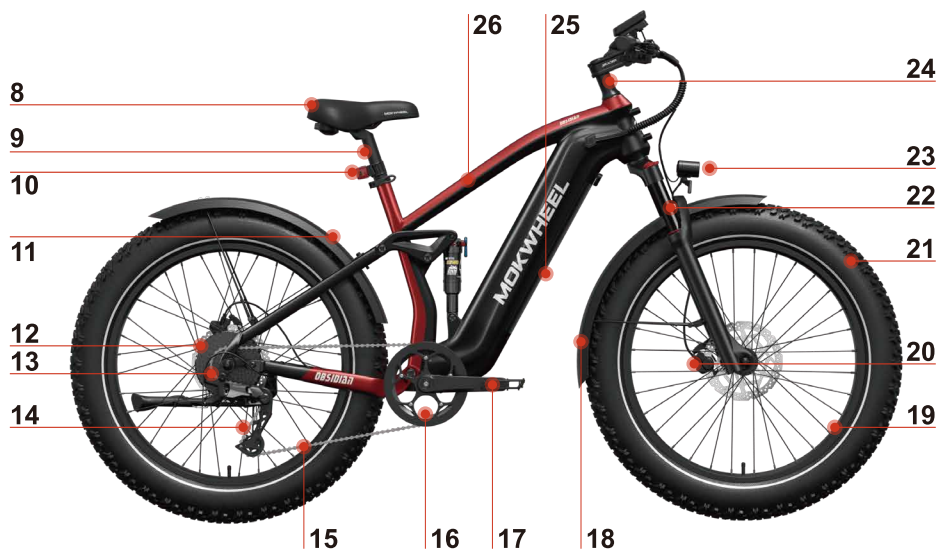
Maximum Payload: 400 lb

Includes rider weight, clothing, riding gear, cargo, etc.



- 1. Display
- 2. Display Button
- 3. Thumb Throttle
- 4. Shifter

- 5. Bell
- 6. Grip
- 7. Brake



- | | |
|-----------------|------------------|
| 8. Saddle | 18. Front Fender |
| 9. Seat Post | 19. Rim |
| 10. Rear Light | 20. Brake |
| 11. Rear Fender | 21. Tire |
| 12. Motor | 22. Front Fork |
| 13. Cassette | 23. Front Light |
| 14. Derailleur | 24. Stem |
| 15. Chain | 25. Battery |
| 16. Crankset | 26. Frame |
| 17. Pedal | |

Inverter Instructions

1. Plug the power chord of the inverter into the socket sitting above the pedals in the seat frame.



Assembly Instructions

Step 1: Remove Packaging

Gather the necessary tools.

Carefully unpack the Mokwheel electric bicycle and all included accessories.

Important: Make sure all parts listed below are included in the package before proceeding.



1. Frame

2. Front Wheel

3. Rear Fender

4. Front Fender

5. Zip Tie

6. Chain Guard

7. Extra Screws

8. Downtube Cable Cover

9. Front Light

10. Display

11. Phillips Serewdriver

12. Rear Light

13. Charger Connector

14. Battery Charger

15. Keychain

16. Right Pedal

17. Left Pedal

18. Tool Kit

19. Bike Pump

20. Kickstand



Notice

The following assembly steps are general guidelines to assist you in assembling your Mokwheel electric bicycle and are not a comprehensive manual for all aspects of assembly, maintenance, and repair.

We recommend consulting a certified electric bicycle technician for repairs and maintenance.

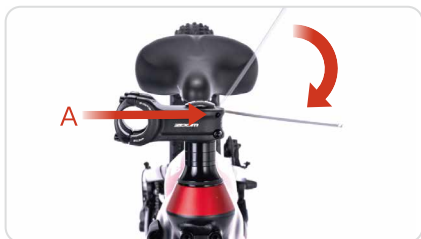
For detailed instructions, please visit the Mokwheel electric bicycle assembly video at:

<https://www.mokwheel.com/pages/electric-bike-guide>

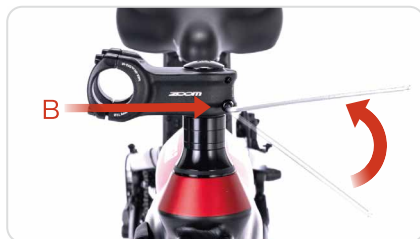
Scan the QR code on the right to watch the assembly tutorial.



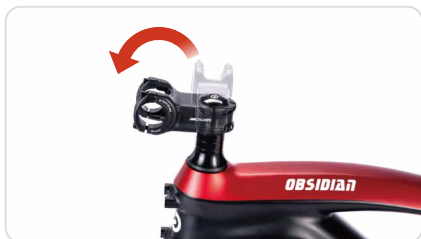
Step 2: Handlebar Assembly



1. Loosen screw A.



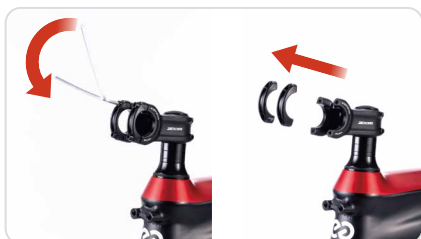
2. Loosen screw B.



3. Twist the handlebar stem 90 degrees.



4. Lightly tighten screws A and B to hold it in place for later adjustment.



5. Remove the stem cover by unscrewing the bolts in the front to install the handlebars.



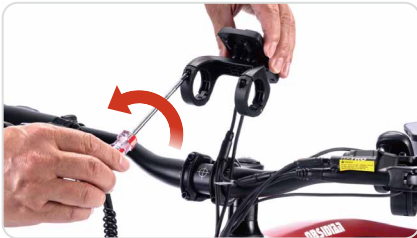
6. Install the handlebar and align the center mark to the middle.



7. Attach the handlebar to the stem. When inserting the bolts, start with two in a diagonal pattern to ensure even alignment, then insert the remaining bolts.



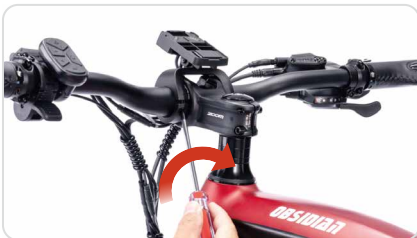
8. Tighten all the bolts securely.



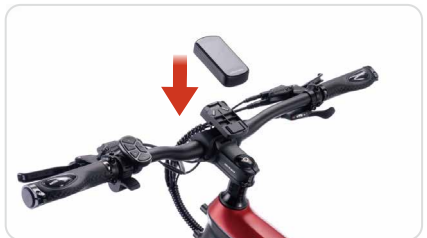
9. Loosen the screws on the display mount and related components.



10. Mount the display onto the bike.



11. Lightly tighten the screws to hold the display in place. (This temporary tightening helps prevent damage during further adjustments.)

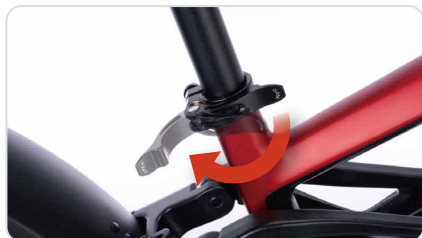


12. Get the display from the toolbox and install it by pressing the top part onto the display holder first.



13. To remove the display, pinch the clamps underneath it to release.

Step 3: Seat & Rearlight Installation



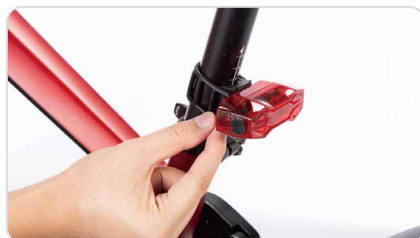
1. Loosen and tighten the saddle clamp to adjust the seat according to your height.



2. Insert the saddle, adjust it to a comfortable height, and tighten the seat post clamp.



3. As indicated by the arrow, the adjustment range must stay within the safety line.

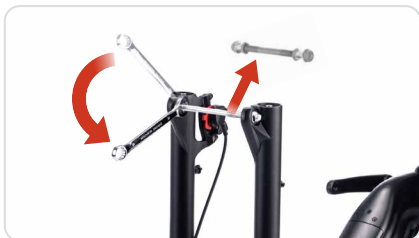


4. Install the rearlight.

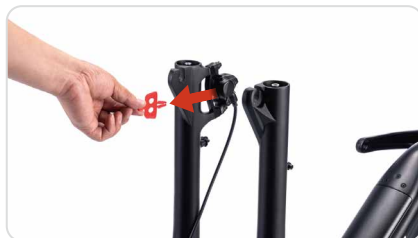
Notice:

To avoid any riding hazards, please tighten the seat post clamp and ensure the saddle height is adjusted within the safety range.

Step 4: Install the Front Wheel & Kickstand



1. Flip the bike frame upside down. Remove the front fork protector (used during shipping to keep the fork upright—this part can be discarded).



2. Remove the brake rotor protection cover.



3. Take off the front wheel nuts and set them aside carefully.



4. Install the front wheel onto the fork. Make sure the brake rotor aligns properly with the brake caliper before fully securing the wheel.



5. Reinstall the washers in the correct order and tighten the nuts securely.



6. Install the rubber protective caps.



7. Install the kickstand and tighten the hex bolt on the kickstand.

Step 5: Tire Alignment and Adjustment



1.To check if you have done it correctly, spin the wheel. You should see a perfect set circle when spinning and not a wobbling circle.



2.Tires may get off-centered due to shipping. To fix this, deflate the tires until the outer tire is susceptible to movement. Pull on the tire to adjust and make sure the white reflective line shares the same distance with the rims all throughout. Once set, inflate the tires to secure and make sure the tires will not move.



3.Use a bike pump inflate tires. The recommended pressure for this model is 20 PSI (1.379 Bar). Do not over-inflate or under-inflate tires.

Step 6: Kickstand Adjustment and Chain Guard Installation



1. Loosen the hex screw located inside the kickstand.



2. Adjust the kickstand to the desired length.

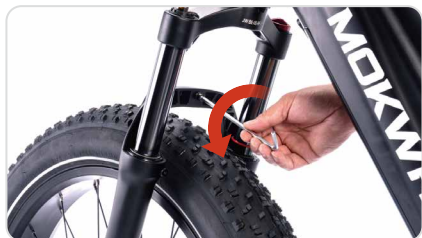


3. Tighten the kickstand adjustment screw securely.



4. Stick the chain guard onto the rear chainstay on the side with the chain.

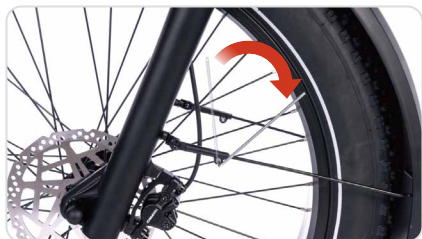
Step 7: Front Fender and Front Light Installation



1. First, remove the screw from the top of the front fork.



2. Prepare the front fender. Insert it through the fork as shown, and position it correctly.



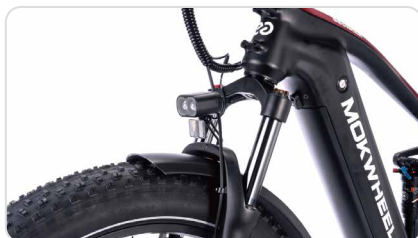
3. Attach the fender stays to both sides of the fork using the screws and tighten securely.



4. Assemble in the following order as shown: front fork → fender → headlight → screw. Make sure all parts are aligned properly before tightening.



5. Connect the headlight cable to the matching yellow two-pin connector on the main wiring harness. (Note: Make sure the connector is fully inserted and the pins are aligned properly.)



6. Test the headlight to ensure it functions correctly before finishing the installation.

Step 8: Stem Adjustment



1. Make sure the handlebar, front wheel, and bike frame are aligned vertically.



2. As shown, tighten the A bolt on the stem.

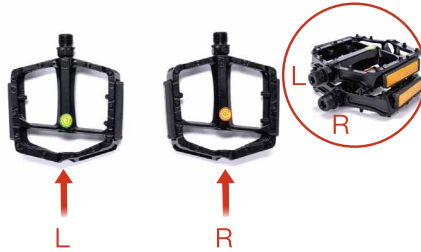


3. Tighten the A bolt on the stem.

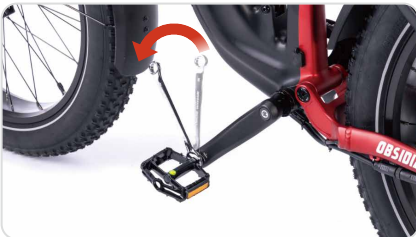


4. As shown, tighten the center bolt on the stem.

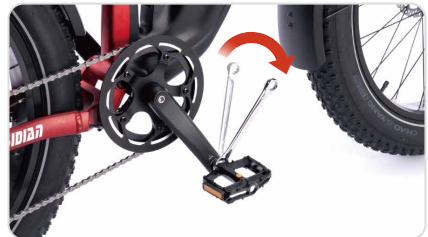
Step 9: Pedal Installation



1. Identify the left and right pedals. “Left” and “Right” refers to the perspective of the riding position.
2. “L” means Left and is to be installed on the left. “R” means the right and is to be installed on the right.
3. Thread the pedals in with fingers first to ensure alignment before tightening with a wrench.



“L” pedal is fixed counterclockwise on the crank.



“R” pedal is fixed clockwise on the crank.

Step 10: Battery Installation and Removal



1. Insert the bottom end of the battery into the socket first, then push the top end downward until it clicks into place. The battery is now securely installed.



2. To remove the battery, insert the key and turn it clockwise. The battery will pop up slightly from the base. At this point, the safety lock is engaged, preventing the battery from falling out.

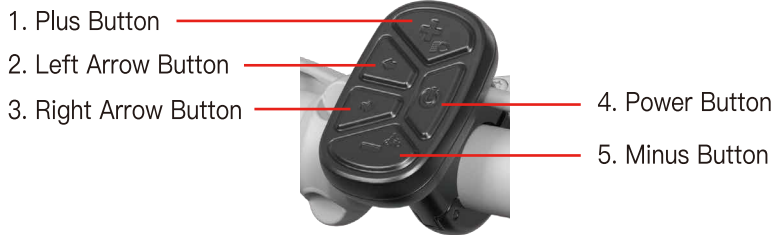


3. Hold the battery with one hand and release the upper safety lock — the battery will drop slightly. Pull the battery outward from the base and lift it up to remove.

(Tip: Use both hands to hold the battery securely to prevent it from dropping.)

Display & Instructions





Usages:

1. **+** Plus Button: Press once to increase PAS level. Press & Hold to turn on the front light.
2. **←** Left Arrow Button: Press once to turn on left turn signal light.
3. **→** Right Arrow Button: Press once to turn on right turn signal light.
4. **⏻** Power Button: Press and hold to turn on/off the bike.
5. **-** Minus Button: Press once to decrease PAS level. Press & Hold to enter push assist mode.

Displayed Functions

Main Interface

- 1: **SPEED** Shows current speed in Mph (interchangeable in settings).
- 2: Battery Indicator: Displays the remaining battery level as a percentage. Each bar represents 10%.
- 3:  Cruise Control: When riding at a steady speed, press and hold the  button to set the current speed as the cruising speed.
- 4: **TIME** Indicates riding time for current ride.
- 5:  Walk Assist: Press and hold the  button to activate low-speed movement. This helps when pushing the bike uphill.
- 6: **TRIP** Shows riding distance for the current ride.
- 7: **PAS** (A total of 0~5 levels, 0 being no assist and 5 being max assist).
- 8: Dynamic Speed Bar: Increases gradually as your speed increases. When less than halfway, the bike operates in ECO mode. When more than halfway, the bike enters POWER mode for higher performance.
- 9: Press & Hold  to turn on the front light.

Odometer Screen

Press and hold  +  to enter the Odometer Screen. The screen will return to the main display after 10 seconds.

Press  to exit Odometer Screen.

- 1.[Average Speed] Indicates average speed for current trip.
- 2.[Max Speed] Indicates max speed for current trip.
- 3.[ODO] Displays the total mileage (odometer).
- 4.[TRIP] Displays the mileage of the current trip.



Display Interface

Data Page



Power-on screen



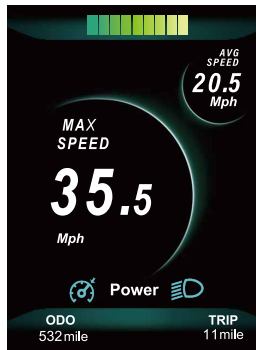
Power-on mode
(Fully charged)



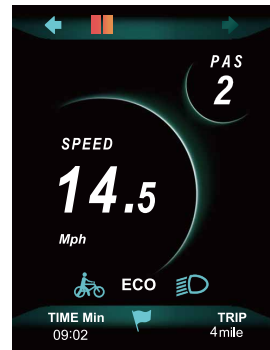
Eco mode: Left turn
signal + Push assist
+ Front light



POWER Mode: Cruise
Control+ Front Light +
Right Turn



Odometer Screen

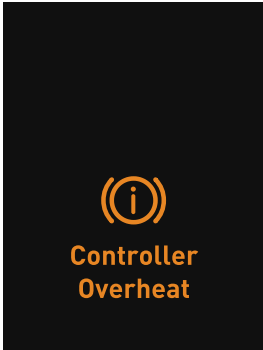


Low Battery

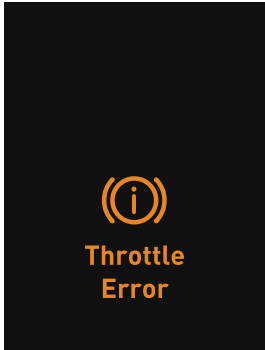
Fault Content



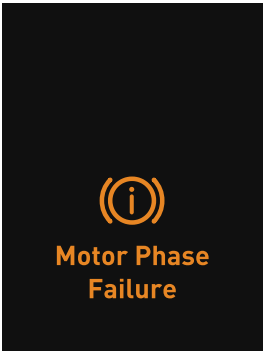
Motor Overheat
Protection



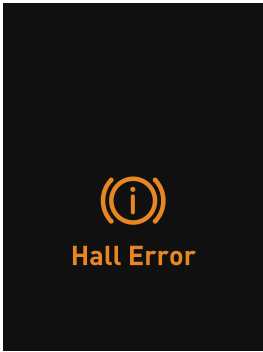
Controller
Overtemperature
Protection



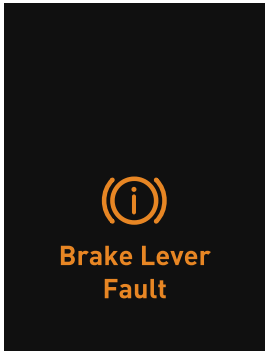
Throttle Fault



Motor Phase Loss



Hall Sensor Fault



Brake Lever Fault



**Turn Signal
Fault**

Turn Signal Error



**Connection
Error**

Communication Fault



**Torque Sensor
Fault**

Torque Sensor Error

Battery Fault



**Battery
Error 1**

Total Voltage
Overvoltage



**Battery
Error 2**

Total Voltage
Undervoltage



**Battery
Error 3**

Charging
Overcurrent



**Battery
Error 4**

Discharging
Overcurrent



**Battery
Error 5**

Charging
Overtemperature



**Battery
Error 6**

Discharge
Overtemperature



**Battery
Error 7**

Charging Low
Temperature



**Battery
Error 8**

Discharge Low
Temperature



**Battery
Error 9**

Excessive
Voltage Difference

Function Settings

Press and hold  +  to enter

Function Setting	
Brightness	>
Unit	>
Throttle Speed	>
Assist Speed	>
Intensity Setting	>

Function Setting	
Riding Mode	>
Startup Mode	>
Fault Check	>
Reset Trip	>
Version	>

Language Settings

Language	
English	
Deutsch	
Français	✓
Español	
Italiano	

Language	
Nederlands	

Brightness/Unit

Brightness	
Level 1	✓
Level 2	
Level 3	
Automatic	

Unit	
Km	✓
Mile	

Assist Speed

Assist Speed	
PAS 1	✓
PAS 2	
PAS 3	
PAS 4	
PAS 5	

60
Mile

20
Km

Fault Query

Fault Check	
Motor Overheat	✓
Controller Overheat	
Throttle Error	
Motor Phase Failure	
Hall Error	

Fault Check	
Brake Lever Fault	✓
Turn Signal Fault	
Connection Error	
Torque Sensor Fault	
Battery Error	

Factory Reset

Factory Reset	
Yes	✓
No	

 Trip Reset

Reset Trip

Yes

No

Version

Y 28-S-P-US-48V-29-01

C US-HSY-48750-LJ-01-101

Battery & Charger



or



A. Charge the battery directly on the electric bicycle.

B. Remove the battery from the electric bicycle and charge it separately.

Battery Charging Tips

Always charge the battery after each use. Short rides will not damage the battery even if it is not fully charged.

- ★ When the power is connected or during charging, do not cover the battery. Ensure it is placed in a well-ventilated, open space. Do not charge the charger upside down, as this can restrict cooling and reduce the battery's lifespan.
- ★ Before starting each charge, inspect the cables, charger, and battery for any signs of damage.





Notice

Charging Instructions

First, connect the battery, then connect the power supply, and ensure the charger's red indicator light turns on. The red light indicates that the battery is charging, while the green light indicates that the battery is fully charged.

Always charge the battery at temperatures between 41°F and 113°F, and ensure the battery and charger are not damaged before starting the charging process. If you notice any abnormalities during charging, stop immediately and contact Mokwheel support for assistance.

When the Battery is Removed

- ◆ Do not touch the "+" and "-" terminals at the bottom of the battery.
- ◆ Handle with care to avoid dropping or damaging the battery pack.

Battery Charging Tips

1. Place the charger in a safe location, away from children.
2. Fully charge the battery before each use. This helps extend the battery's lifespan and reduces the risk of overcharging the battery pack.
3. Do not use chargers other than those purchased directly from MOK-WHEEL to charge the battery.
4. Avoid exposing the battery to liquids, dirt/debris, or metal objects.
5. Do not pull on the charger's cables. When unplugging, carefully remove the AC and DC cables by holding the plastic plug.
6. If you notice any unusual odors or overheating from the charger/battery, stop charging immediately and contact MOKWHEEL E-bike customer service.



Notice

Please follow the above procedures and safety information to charge your MOKWHEEL E-bike with extreme care. Failure to adhere to the correct charging procedures may result in damage to your MOKWHEEL electric bicycle, charger, personal property, as well as serious injury or even death.

Do:

- If the battery will not be used for an extended period, fully charge it and recharge it every two months.
- Store it in a cool, dry place.
- Charge the battery after each use.
- Only use the charger specified by Mokwheel to charge the battery.

Do Not:

- Use it to power other electrical devices. Improper use may damage the battery, shorten its lifespan, and potentially cause fire or explosion.
- Disassemble or modify the battery or charger.
- Place the battery near fire or corrosive substances.
- Allow any liquids to come into contact with or inside the battery/charger.
- Expose the battery/charger to extreme weather conditions.
- Continue using a damaged battery/charger.
- Use the battery/charger for any purpose other than its intended use.

Extending Range and Battery Life



Notice

To ensure the hub motor does not overheat or become damaged due to overload, it is recommended that users pay close attention and adhere to the following guidelines:

- * Use pedal assistance when climbing hills or accelerating from a standstill.
- * Avoid sudden starts and stops.
- * Accelerate gradually.

Air Shocks



Rebound adjustment knob(Red)
+ direction rotation, increase damper(slow)
– direction rotation, decrease damper(fast)



Compression Adjuster(Blue)
+ direction rotation, lock-out
– direction rotation, open up

Pneumatic shock absorber air pressure value(psi)

The maximum air pressure value of the gas pressure shock absorber is mostly 250psi (A0Y36 vice chamber maximum 80psi), and the factory is 150psi or less for most of the mountain bikes, the load bearing and the recommended air pressure values are as follows (not the maximum load bearing, it is the weight of the rider plus the car weight, the value is for reference only)

Weight (lbs)	Main air chamber (psi)	Negative air chamber
120	90	50
140	105	50
160	120	55
180	135	65
200	150	70
220	165	75
240	180	80
260	195	85
280	210	85

Brakes

Your electric bicycle is equipped with disc brakes for maximum reliability. Squeezing the brake levers generates friction between the wheel brakes and the brake discs, slowing down the wheels. To stop quickly, apply increased pressure to the brake levers.

It is important to understand how the brake levers control the front and rear brakes. The left brake lever controls the front brake, while the right brake lever controls the rear brake.

When using the front brake, the rear brake should always be engaged. Using only the front brake to slow down or stop at high speeds may cause the rider to be thrown off the saddle and result in injury from a fall. When slowing down or stopping, it is best to apply even pressure to both brake levers.

Electric bicycles with disc brakes may produce a slight scraping sound when the wheels are turning without the brakes applied. This is normal.



Notice

While riding, avoid using only the front brake, as this can cause the front wheel to lock up and lead to loss of control. Always use both the front and rear brakes together for balanced and safe braking.

Ensure that when full hand pressure is applied, the brake levers do not touch the handlebars (Figure 1). If this occurs, the brakes must be adjusted by increasing the cable tension.



Figure 1

A quick adjustment to the brakes can be made by tightening or loosening the threaded adjuster on the brake lever until the brakes reach a safe and fine-tuned state (Figure 2). If the brakes still do not function



Figure 2

properly, further adjustments by an experienced bicycle mechanic may be required.



Notice

1. Disc brakes may become hot during use. Avoid touching the disc brakes immediately after use.
2. Slippery weather conditions can lead to skidding and require a longer distance to stop. When riding in wet or slippery conditions, brake earlier and avoid sudden stops.

Electric Bike Care Guide

To ensure safe riding, you must ensure that your electric bicycle is properly maintained. For your safety, please follow the basic guidelines below and have it regularly serviced by a certified electric bicycle technician.

1. Keep the battery fully charged when not in use to maintain it properly.
2. Never submerge the electric bicycle or any of its components in water, as this may damage the electrical system.
3. Regularly inspect the wiring and connectors to ensure there is no damage and that the connections are secure.
4. Clean the frame with a damp cloth soaked in a mild, non-corrosive detergent solution, then wipe it dry with a cloth.
5. When storing the electric bicycle, avoid leaving it in the rain or exposing it to corrosive materials. If the bicycle gets wet, dry it afterward and apply anti-rust treatment to the chain and other unpainted steel surfaces.
6. Riding on beaches or in coastal areas may expose your electric bicycle to corrosive saltwater. Frequently wash your bicycle and wipe or spray all unpainted parts with anti-corrosion treatment.
7. If the hub or bottom bracket bearings are submerged in water, they should be removed and re-greased to prevent damage.
8. If the paint on any metal surface is scratched or chipped, use touch-up paint to prevent rust. Clear nail polish can also be used as a preventive measure.
9. Regularly clean and lubricate all moving parts, tighten components, and make adjustments as needed.
10. Damage caused by corrosion is not covered under warranty. Give your electric bicycle special care to prevent corrosion and extend its product lifespan.

Safety Checklist

NOTICE: it is important to carry out the following checks before riding.



Component or Condition	Check Before Every Ride	Regular Inspection*
Tire pressure	X	
Tire wear/damage	X	
Brake pad adjustment	X	
Wheel quick release adjustment	X	
Head and tail lights	X	
Controls and displays	X	
Seatpostquickreleaseadjustment	X	
Brake pad wear		X
Brake cable tension/wear		X
Spoke tension		X
Wheel truing		X
Hub bearings		X
Chain lubrication		X
Deraillieur adjustment		X
Reflectors		X
Battery and charger		X
Headset adjustment		X
Bottombracketadjustment		X
All bolts,nuts&mounting hardware		X

* Every 5 to 10 rides depending on length and conditions of ride.

NOTICE: it is important to carry out the following checks before riding.



Component or Condition	Clean and/ or Lubricate	Adjust/ Tighten	Repair/Replace if Necessary
Tire pressure		X	
Tire wear/damage		X	
Brake pad adjustment		X	
Wheel quick release adjustment			X
Head and tail lights			X
Controls and displays			
Seatpost quick release adjustment		X	
Brake pad wear			X
Brake cable tension/wear		X	X
Spoke tension		X	
Wheel truing		X	
Hub bearings	X	X	
Chain lubrication	X		
Derailleur adjustment	X	X	X
Reflectors			X
Battery and charger			
Headset adjustment	X	X	
Bottom bracket adjustment	X	X	
All bolts, nuts & mounting hardware		X	X

* Every 5 to 10 rides depending on length and conditions of ride.

Disclaimer

At MOKWHEEL, we take customer safety very seriously and always recommend that you carefully comply with local, state, and federal laws before purchasing our products.

- MOKWHEEL is highly capable and can reach higher levels as the rider's skills improve. We require all MOKWHEEL users to always exercise caution and take responsibility for their own safety and the safety of others.
- Some counties, states, and towns have different laws/regulations. Please check with local authorities and adhere to local speed/power limit regulations when commuting on roads or in specific areas, such as parks, tracks, trails, or private residential areas.
- Children under 16 should always be supervised by an adult. MOKWHEEL should not be operated by anyone below the recommended age limit.
- Always wear a helmet, elbow pads, and knee pads. We recommend avoiding sandals or riding barefoot; please wear athletic shoes when riding MOKWHEEL.
- Before every ride, inspect and secure all fasteners and wheels to prevent wear. Replace any worn or damaged parts immediately.
- Please use sound judgment and carefully consider all aspects to avoid causing harm, damage, or loss. We recommend purchasing basic insurance for riders and communicating with local authorities before riding.
- MOKWHEEL is not responsible for the actions of others after your electric bicycle is discarded. The consequences of your actions depend entirely on the purchaser and how you fulfill your responsibilities. If you need further information, we are happy to provide advice based on our knowledge.



Notice

When the service life of any component is exceeded, it may result in unexpected loss of functionality. This could lead to serious injury or even death. Therefore, pay attention to signs of wear, such as cracks, scratches, or changes in the color or operation of components, as these may indicate that the service life has been exceeded. Replace any worn parts immediately.

