



WESTHILL

Electric Bike User Manual

GHOST 2.0 PHANTOM



HAVE A QUESTION? NEED HELP?

Contact us on Facebook for a quick reply.



westhillbikes.com

WARRANTY

Westhill bikes are covered by a limited 3-year warranty. Aside from general cycle maintenance, any work to the motor should be carried out by a Westhill technician or authorised dealer.

1. Warranty periods

The statutory warranty valid at the time of delivery applies to:

Frame: 3 years

Motor: 2 years

Battery, Charger & Controller: 2 years

2. Warranty conditions

2.1 Requirements

There is a defect in materials or workmanship or an error of information.

The cause of the change in the product is neither natural nor related to its functions, wear and tear or ageing.

The damage was not caused by use of the bike for other than the intended purpose.

2.2 Warranty exclusions

Damage caused by improper use or force majeure.

All parts subject to function-related wear and tear, unless this is the result of a defect in the manufacturing process or material.

Damage which results from improper or insufficient care and repairs, alterations or the replacement of parts by persons other than trained professionals.

Accidental damage or other external effects, provided these are not the result of defective products or information.

Repairs resulting from the use of second-hand parts or damage caused by this use.

Damage resulting from competitive use.

Special fittings, accessories or non-standard components, especially technical modifications.

Observing the required service intervals is also a condition of any warranty claims you may make.

2.3 The following are considered wear parts under the statutory warranty:

Tyres

Rims in combination with rim brakes

Spokes

Brake pads

Chains and toothed belts

Chain wheels, sprockets, bottom brackets and jockey wheels

Sliding bearings

Lamps for lighting system

Handlebar tape/handle grips

Hydraulic oils and lubricants

Gear-shift cables and brake cables

Paint finishes

Batteries (depletion of capacity to 60% is acceptable within first two years)

(1) Definitions

In this warranty the following terms shall have the following meanings: Westhill Bikes shall mean FW3 Ltd; Westhill Product shall mean the FW3 Ltd; Product Warranty Period shall mean a period commencing on the original date of purchase as new

(2) Circumstances outside our control

FW3 Ltd shall not be liable for any failure in service as a result of FW3 Ltd, or FW3 Ltd agents employees or contractors being delayed, prevented or hindered in the performance of its obligations by reason of any circumstances beyond its reasonable control. Such circumstances include, but are not limited to fire, flood, Act of God, and civil disorder.

(3) Disclaimers

FW3 Ltd shall not be liable for any indirect, incidental, special or consequential damages losses or expenses (including without limitation lost profits, loss of use or loss of data, goodwill, reputation or lost business) arising directly or indirectly, from the purchase use or sale of the Product, whether or not FW3 Ltd was advised or aware of the possibility of such damages, losses or expenses. It is the customer's responsibility to make lawful use of the products FW3 Ltd supplies.

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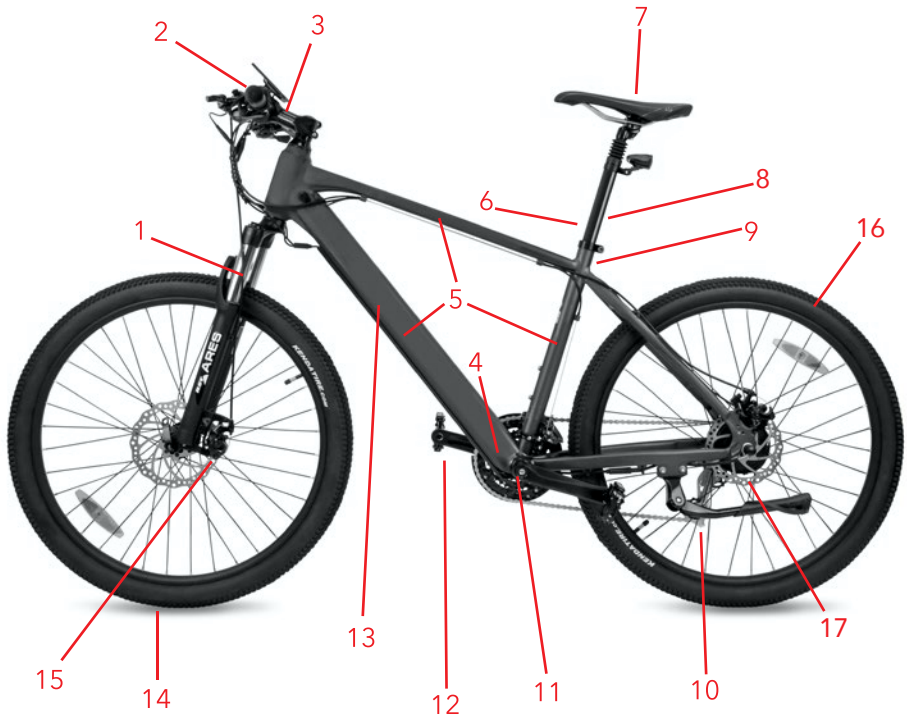
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THIS MANUAL SHOULD BE CONSIDERED A PERMANENT PART OF THE ELECTRIC BICYCLE AND SHOULD REMAIN IF IT IS RESOLD.

INCLUDED IN THE BOX



- | | | | |
|----|---------------------|-----|--|
| 1. | Front Fork | 10. | Rear Derailleur |
| 2. | Handlebar | 11. | Detachable Window
for Battery removal |
| 3. | Handlebar Stem | 12. | Pedals |
| 4. | Charging Port | 13. | Concealed Battery |
| 5. | Frame | 14. | Front Wheel |
| 6. | Seat Post | 15. | Front Brake |
| 7. | Saddle | 16. | Rear Wheel |
| 8. | Seat Clamping Lever | 17. | Rear Brake |
| 9. | Seat Tube | | |

SPECIFICATIONS

MODEL	PHANTOM	GHOST 2.0	CLASSIC	LINK
Bike				
Wheel Diameter	27.5"	27.5"	700c	20"
Wheelbase	1156mm	1143mm	1101mm	1040mm
Max Rider Weight	120kg	120kg	120kg	120kg
Max Speed	25km/h 15.5mph	25km/h 15.5mph	25km/h 15.5mph	25km/h 15.5mph
Range Per Charge	20 - 100 miles*	20 - 100 miles*	20 - 100 miles*	15 - 50 miles*
Weight	20kg	20kg	21.8kg	16kg
Tyres	Hutchinson Taipan (54-584) 27.5x2.25	Kenda K1047 (54-584) 27.5X2.1	Kenda K1088 (40-622) 700CX40C	Kenda K1088 (47-406) 20X1.75
Gears	Shimano Deore 30 Speed (3x10)	Shimano Alivio 27 Speed (3x9)	Shimano 7 Speed	Shimano 7 Speed
Brakes	Tektro Hydraulic HD-E500	Tektro MD-M300	Tektro MD-M300	Tektro MD-M300
Display	LCD Display DIGITAL II	LCD Display DIGITAL II	LCD Display DIGITAL II	LCD Display DIGITAL II
Battery				
Capacity	400WH 500WH available	400WH 500WH available	400WH 500WH available	300 WH 400WH available
Type	LG Lithium-ion	LG Lithium-ion	LG Lithium-ion	LG Lithium-ion
Rated Voltage	36V	36V	36V	36V
Motor				
Make	Bafang	Bafang	Bafang	Bafang
Type	Brushless	Brushless	Brushless	Brushless
Rated Power	250W	250W	250W	250W
Rated RPM	205RPM	205RPM	205RPM	275RPM
Rated Voltage	36V	36V	36V	36V
Rated Output Torque	45n.m	45n.m	40n.m	40n.m
Controller				
Controller	Sine Wave	Sine Wave	Sine Wave	Sine Wave
Under Voltage Value	31.5V	31.5V	31.5V	31.5V
Over Current Value	15A	15A	15A	15A
Charger				
Current	2 Amps	2 Amps	2 Amps	2 Amps
Input	41.9V	41.9V	41.9V	41.9V
Type	Smart Charger	Smart Charger	Smart Charger	Smart Charger
Charge Time	4-6h	4-6h	4-6h	4-6h

* The range will be different for every user and 100 miles is not what you should expect but is the absolute maximum anyone will achieve in perfect test conditions.

* Factors that effect this: battery size, rider weight, weather conditions, terrain, temperature, gradient, tyre pressure, total load, battery age, battery misuse (please see battery care and maintenance information <https://westhillbikes.com/battery-care-maintenance>)

ASSEMBLY

The bike comes partially assembled. In order to fully assemble, you will need to attach the handlebars, the front wheel, the brake caliper, the pedals and insert the seat post. Please refer to the diagrams on pages 6-11 whilst assembling your bike. If you are having difficulty assembling the bike, please call our customer service team or take your bike to a local bike shop.

Please Note: pictures may vary from the actual product but assembly will still be the same.

ASSEMBLING THE HANDLEBAR

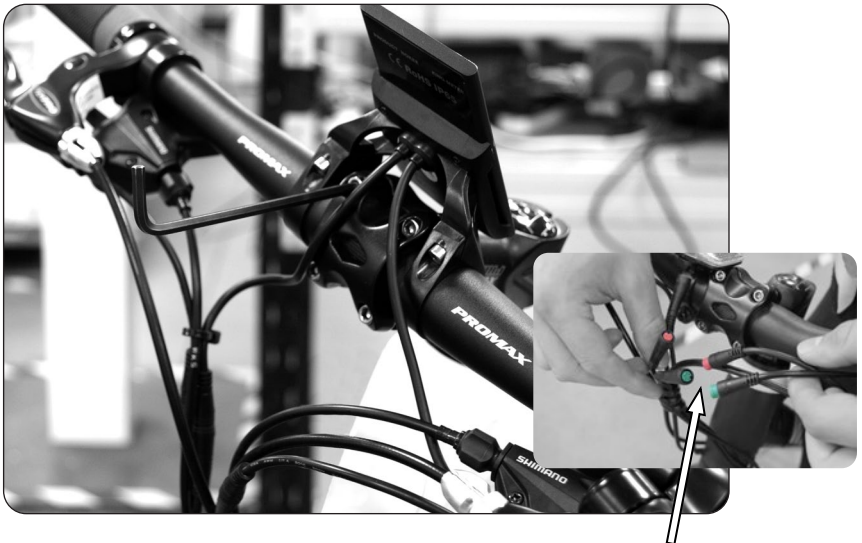
- First, make sure the handlebar stem is facing forward, towards the front fork.



- Unscrew the 4 bolts in the handlebar stem using the provided allen key.



- Place the handlebar into the handlebar stem and screw the 4 bolts in using the provided allen key.

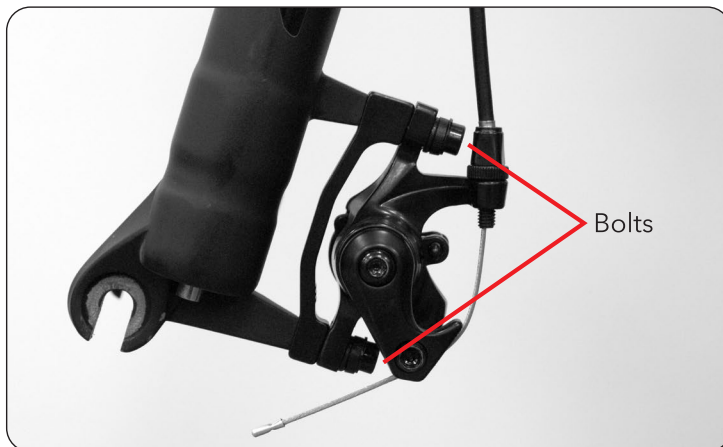


Connect the wires by colour

- Make sure all the wires are connected according to colour.

ASSEMBLING THE FRONT DISC BRAKE CALIPER

- Attach the front caliper to the front fork by screwing in the two bolts.
 - *This process will be the same for a hydraulic brake
 - *Be careful when attaching the brake not to crossthread the bolts.



ATTACHING THE FRONT WHEEL

- Loosen the pin through the middle of the wheel to allow you to place the fork onto it. Make sure the disc is properly inserted into the brake caliper.



- Tighten the nut and hold the lever in an upright position as shown in the photo below. Once tight push the lever in to secure the wheel.



TO CHECK

- Make sure the quick release clamping lever is secure.
- Make sure the brake is hooked onto the disc and working properly.
- Check your tyre pressure – if they need pumping up, attach a bike pump to the valve (shown in the photo below) and inflate to the recommended tyre pressure (this will be located on the tyre).



ASSEMBLING PEDALS

- There are 2 pedals. Please look inside of each pedal to identify which is labelled R (right) and L (left).



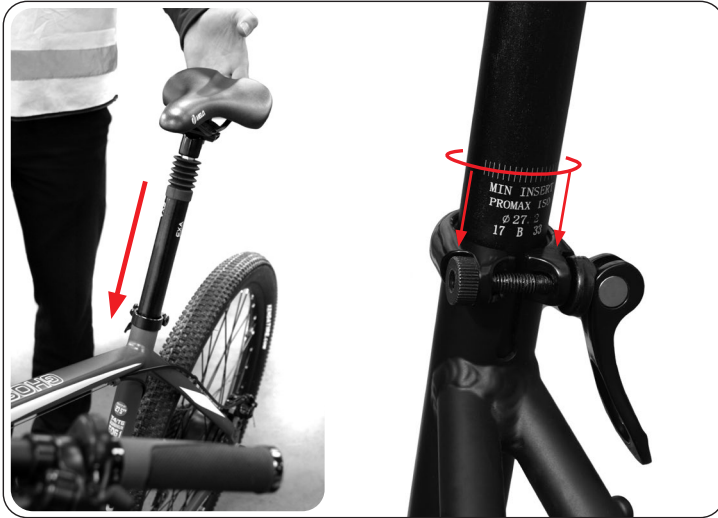
- To connect the pedals to the bike, place L into the left tube and R into the right tube (left and right directions are as though you are sitting on the bike). Tighten by turning the pedals toward the front wheel. Use a spanner to make sure the pedals are tight and secure.



- The right pedal is attached on the same side as the chain. Make sure you check the pedals are tight and secure before riding.

ATTACHING THE SEAT

- Slide the saddle post into the seat tube.
- Align the seat with the frame to make sure it is straight.
- The height of the seat should not be pulled higher than the safety line marks on the seat post.
- Tighten the seat clamping lever.



SAFE RIDING

Before each ride, check whether all the bolts are tight, the battery has sufficient charge, the charging port is covered, the tyre pressure is sufficient, all wires are plugged in and the brake system works correctly. Avoid direct contact with water when possible.



CHARGING THE BATTERY

Your bike comes with a removable rechargeable lithium-ion battery. Always use the provided charger only. Before your first ride you must fully charge the battery. The charging port is located at the bottom of the battery frame, by the detachable window (next page for reference).

For every ride after, charge your battery until it is fully charged and remove once completed. Do not leave any chargers plugged in overnight or leave it plugged in past the charge time.

1. Plug one end of the power cord into a grounded AC outlet and the other into the bike's charging port. The red charging light on the charger unit will turn on.
2. The red light will turn green once fully charged. Recharge the battery after each use.



(Please note: Always plug the charger into the wall first before the device. If the wall outlet doesn't have power and you plug the charger into the device first, it will light green, even if the battery is not full. So always plug into the wall first to make sure there is power.)

CHARGING LIGHT RED: Battery is charging.

CHARGING LIGHT GREEN: Charging is complete.

Do not turn on the bike while it is charging.

When you are done charging the battery, remember to cover the charging port.

In the unlikely event the battery emits strange odors, overheats, or begins leaking, step away from the battery and contact Westhill Bikes for further assistance.

HOW TO USE THE BIKE CONTROLS

Digital II



STANDARD OPERATION

ON/OFF

Starting your Westhill bike. Hold MODE button to start display and supply power to the controller. Your e-bike will then start to work.

To switch off press and hold the MODE button; the display will then switch off. If your e-bike is stationary (not used) for more than 10 minutes the controller will automatically power off.

CHANGING DISPLAY SPEED INFORMATION

On completion of your journey you will be able to view your average speed and your maximum speed achieved, helping you maintain and log your riding goals. When you are stationary press MODE to view your stats. You can switch display information by simply pressing MODE to flip from display to display. You will be also be able to view trip distance and cumulative total mileage.

The display starts in REAL TIME SPEED → AVERAGE RIDING SPEED → MAX. SPEED → TRIP** → ODO → RIDE TIME

** To reset the 'TRIP' feature back to 0 press and hold the MODE and UP button together for 3 seconds.



Real Time Speed



Average Speed



Max Speed



Trip



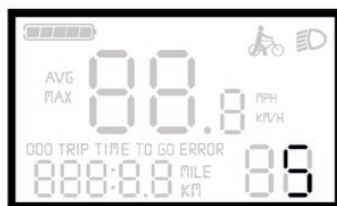
ODO



Time

PAS LEVEL OR PEDAL ASSIST LEVEL

The bike will start in 'PAS' (Pedal Assist) level 1. Press UP or DOWN to change the output power of motor. Power range is 1 to 9. 1 is the lowest power – 9 is the highest. You will also have the option to turn the power off by setting the level to 0.




WALK ASSIST

Press and hold DOWN button to start walk assist mode. The bike will keep at an even speed of 4 mph or 6km/h. Release the button to stop walk assist mode.



Walk assist should only be empowered when you are walking the bike. This mode is NOT for riding.

TURNING ON AND OFF BACKLIGHT



Press and hold the UP button for 2 seconds to turn on the backlight.
Press and hold the UP button again for 2 seconds to turn the backlight off.

BATTERY INDICATOR

The battery icon will show the level of charge currently held by the battery. There are five segments which will decrease as charge is used. If the battery level falls below the advised minimum, the battery icon will flash on and off and you should recharge as quickly as possible.



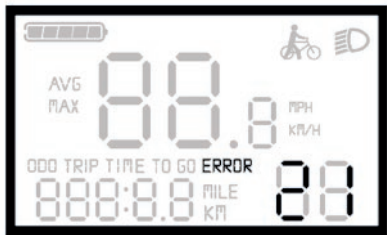
Battery levels



Flashing to indicate low charge

ERROR CODE

If your Westhill bike computer develops a fault, the ‘ERROR’ code will be highlighted on the display. Contact your nearest Westhill service center or your retailer as soon as possible.



Error code interface

Error Code	Definition
21	Current Abnormality
22	Throttle Abnormality
23	Motor Abnormality
24	Motor Hall Abnormality
25	Brake Abnormality
30	Communication Abnormality

The fault display interface can only be exited when the fault has been addressed. Your e-Bike computer will not function if the error code activated.

WARNING: Your warranty may be invalidated should you continue to use your e-bike after the ‘ERROR’ code has been displayed. Please see error code chart above for codes and meanings.

USERS MENUS AND SETTINGS

Turn on the display screen, then hold the UP and MODE buttons simultaneously for two seconds to enter the user settings menu. There are 8 user settings menus. The main display will tell you which user menu you are on.

SETTINGS MENU INDEX

P = Set Password

St.1 = Wheel Diameter Menu

St.2 = Limit Speed Setting **

St.3 = Display Brightness

St.4 = Unit Display KM/H Or MPH

10 = Switch ON/OFF Time

POS = PAS Levels

cu.r = Limit Current Setting

SP.S = Speed Magnet Sensor Setting **

SC.A = Magnet Assistance Setting **

SS.P = Slow Start Setting

Voltage 1-5 = Voltage Setting **

** Changing these setting can damage your bike and will invalidate your warranty.

Use the UP or DOWN buttons to scroll through the menu options.
Short press MODE to select the required menu.

SET PASSWORD

Selecting the 'PASSWORD' menu lets you personalise your password.

You can personalise your power-on password by pressing the UP/DOWN buttons to select the required digits. Press MODE to confirm your selection. Then short press MODE again to confirm the password.



WHEEL DIAMETER MENU

If you need to change the wheel diameter, press MODE to select the wheel diameter menu. The set values are 16inch/18 inch/20 inch/22 inch/24 inch/26inch/27.5 inch/700C/28 inch. Adjusting the wheel diameter setting will ensure the accuracy of displayed speed and mileage is correct for your wheel diameter. Short press the MODE button to confirm the desired wheel diameter. Factory default wheel diameter on the digital II-LCD display is preset accordingly. Always check this is correct to your wheel size.



LIMIT SPEED MENU

The maximum speed your e-bike motor is legally allowed to assist you in the UK is 15.5mph or 25km/h. If you increase the default setting (15.5mph / 25km/h) you will not be covered under warranty and will be breaking the law. The optional range for motor assistances is 7mph (12km/h) – 15mph (25km/h). Press the UP or DOWN button to limit or increase your maximum speed attainable. Short press the MODE to confirm.



DISPLAY BACKLIGHT BRIGHTNESS

To adjust the brightness of your display backlight press the UP and DOWN button to select the correct menu short press the MODE and then select the brightness setting from 1 – 3. Short press the MODE button to confirm and switch to display unit setting. The default value of Digital II-LCD is 1.



DISPLAY UNIT SETTING (METRIC AND BRITISH UNIT)

Short press UP/DOWN Buttons to switch display unit to the unit menu. You can select km/h or mph to display your speed and your trip statistics. This will change automatically once you change the display unit setting.



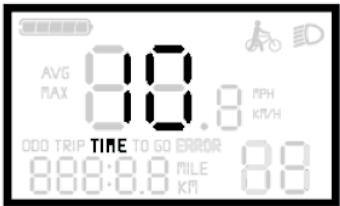
Miles per hour (MPH)



Metric unit

SWITCH OFF TIME SETTING

Select the 'TIME' menu and short press the MODE button to select. Use the UP/DOWN buttons to adjust the time settings.



PAS LEVEL SELECTION

You can adjust your 'PAS' assistance speed by using the UP/DOWN buttons as you ride.



Level Range



PAS Level Ratio

CURRENT SETTING

Press UP and DOWN to set limited current value.



SPEED MAGNET NUMBERS SETTING

These settings are for use by Westhill technicians ONLY and should not be adjusted by end users.

WARNING: The speed magnet settings have already been set at the optimum levels for your Westhill bike and adjusting these levels can invalidate your warranty.



MAGNET ASSISTANCE SETTING

These settings are for use by Westhill technicians ONLY and should not be adjusted by end users.

WARNING: The magnet assistance settings have already been set at the optimum levels for your Westhill bike and adjusting these levels can invalidate your warranty.



SLOW START SETTING

Press UP and DOWN to set slow start.



BATTERY VOLTAGE

These settings are for use by Westhill technicians ONLY and should not be adjusted by end users. **WARNING:** The 'VOLTAGE' settings have already been set at the optimum levels for your Westhill bike/battery and adjusting these levels can invalidate your warranty.



Voltage Class 1



Voltage Class 2



Voltage Class 3



Voltage Class 4



Voltage Class 5

CARE AND MAINTENANCE

BATTERY RANGE

The range of the battery is up to 100 miles per charge. However, a lot of factors affect how far you can go per charge:

- Driving surface: A smooth, flat surface will increase driving distance.
- Weight: More weight means less distance.
- Maintenance: Regular battery charging and maintenance will prolong the life of your battery.
- Speed and riding style: Maintaining a moderate speed will increase distance. Frequent starting and stopping, acceleration and deceleration will reduce it.
- Battery size, tyre pressure, temperature, battery age and weather conditions.

SPEED LIMIT

The top speed of the bike is set to 25km/h (15.5mph) (obey local laws).

WEIGHT LIMIT

The maximum load is 120kg (19 stone). Going above the maximum weight limit can cause injury or damage the bicycle and will void your warranty.

CLEANING THE BIKE

To clean the bike carefully wipe with a damp cloth, then dry with a dry cloth. Do not use excessive water to clean the bike as this could damage the components, resulting in personal injury or malfunction of the bicycle. Lubricate the chain after every wash if you can to keep it smooth and rust free. Suitable products are available via **westhillbikes.com**.

BATTERY

- Keep the bike away from fire and excessive heat.
 - To avoid damage to the battery, never subject the bike to intense physical shock, severe vibration or impact.
 - Protect the battery from water or moisture.
 - You can remove the battery but never disassemble it.
 - If there are any issues with the battery, please contact Customer Support on +44 (0)1823 672 970.
-

STORAGE

- If you plan on storing the bike for a substantial period of time, please make sure you fully charge the battery before storing. The battery should be fully charged once a month after this.
 - To protect against dust, cover the bike.
 - Store the bike indoors, in a dry place and at a suitable temperature.
 - You should bring the bike into a warm environment for charging.
 - Do not leave the bike plugged into the charger for long periods of time.
-

TYRE PRESSURE

The recommended tyre pressure is written on the tyres (25-45 PSI).

SAFETY WARNINGS

Here are some useful tips to make sure you always have a safe ride:

- Children, the elderly and pregnant women should not use the bike.
- Do not ride after drinking alcohol.
- Consult your doctor if taking prescription medication.
- Do not carry items when riding.
- Prior to each ride, inspect each part of the bike to ensure it has been maintained correctly and is functioning properly.
- Always give way to pedestrians.
- Be aware of your surroundings.

- Always comply with local traffic laws and regulations. Remember, this bike is a motor vehicle, and is treated as such by local law enforcement. You can and will be arrested for drink driving. Many cities have restrictions on where you can drive motor vehicles, as well as additional restrictions on driving non-automobiles on streets and highways.
 - Make sure your feet are always placed securely on the pedals.
 - The bike cannot be ridden by two or more people. Only one person can ride at a time.
 - When you ride the bike along with other cyclists, always keep a safe bike distance to avoid a collision.
 - When turning, be sure to maintain your balance.
 - Do not allow distractions when riding, such as answering the phone or engaging in any other activities.
 - Applying brakes too hard or too suddenly can lock up a wheel, which could cause you to lose control and fall. Sudden or excessive application of the front brake may pitch the rider over the handlebars, which may result in injury or death.
-

MODIFICATIONS

Do not attempt to disassemble, modify, repair or replace any electrical parts without contacting the Customer Service (+44 (0)1823 672 970). This will void any warranty and can lead to malfunctions which may cause injury.

ADDITIONAL OPERATION CAUTIONS

Do not lift the bike off the ground while it is in operation and the wheels are in motion. This can result in freely spinning wheels, which may cause injury to yourself or others nearby. Do not jump on or off the bike.

Westhill Bikes Warranty

Register Now Through Our Website

Simply visit **westhillbikes.com/warranty-registration** and fill in your information.

Register Now Through Facebook



The other way to register your new bike is through Facebook. Simply visit our page **www.fb.com/westhillbikes** or scan the QR code below with your mobile phone and message us with this information:

Your name:

Your email address:

Your postal address:

Bike model & colour:

Purchase date:

Where you purchased from:



Be sure to register right away so your bike is covered!

Don't have Facebook? Email the above details to enquiries@westhillbikes.com to activate your warranty.

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